APRIL 27, 1946

Railway Age

Founded in 1856

McCARTNEY LIBRARY
GENEVA COLLEGE

Carrying the freight over the mountains

WITH AN AVAILABILITY OF 94.4%

IN THE mountainous country of the Pacific northwest the General Motors Diesel freight locomotives operated by the Great Northern are put to severe tests. Even so, they roll up impressive records.

Take, for example, the Great Northern's 5400 H.P. No. 400 locomotive.

In a pool arrangement, it has been operating between Spokane, Whitefish, Havre and Great Falls since its delivery in December 1943.

Up to January 1945, it had operated over 107,454 miles — average per month 8,954 miles — with an availability of 94.4%.

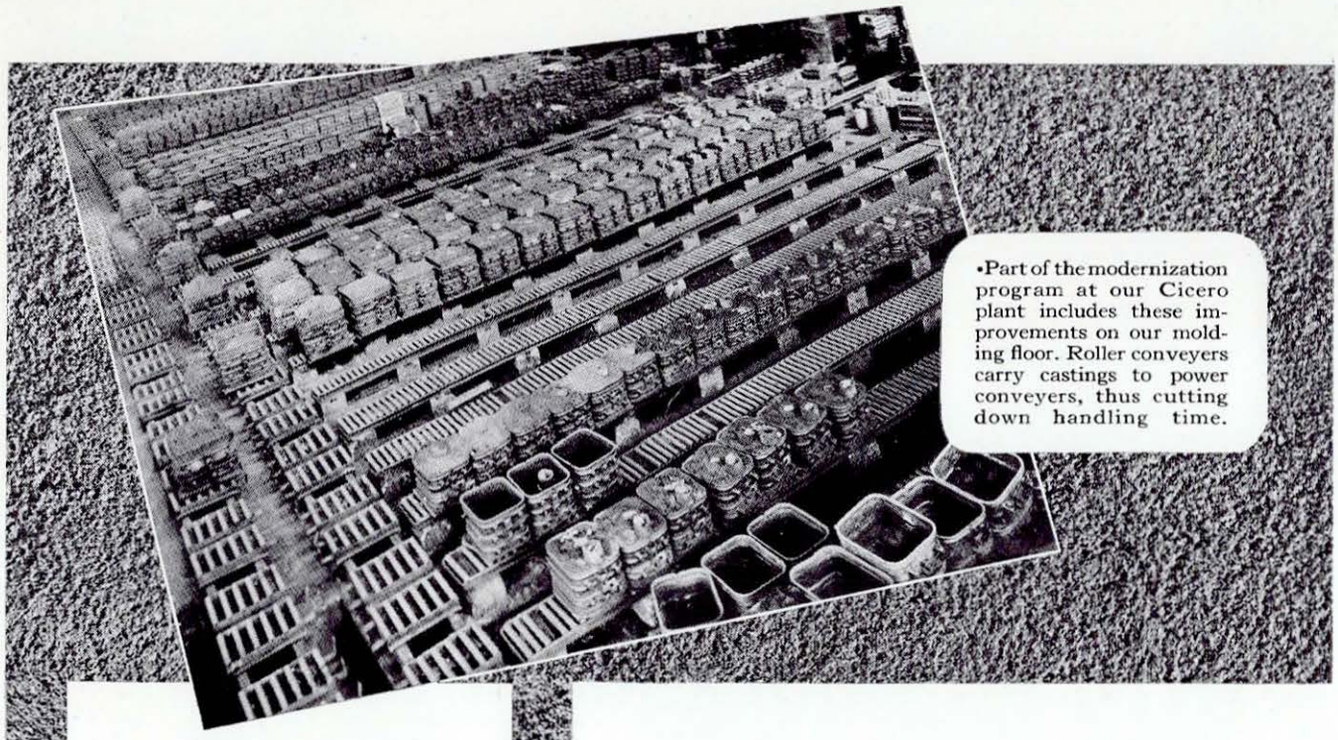
This record surely entitles No. 400 to join the ever-growing number of G. M. Diesel freight locomotives that are setting standards of stamina and dependability unknown to railroading before such equipment set the pace for a new day in railroading.

GENERAL MOTORS LOCOMOTIVES

YOUTHFUL IN STAYING POWER — VETERANS FOR PERFORMANCE

ELECTRO-MOTIVE DIVISION

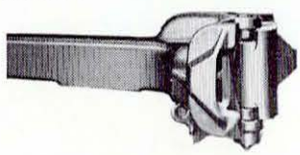
GENERAL MOTORS CORPORATION • LA GRANGE, ILL.



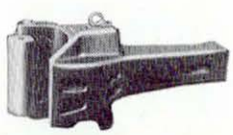
•Part of the modernization program at our Cicero plant includes these improvements on our molding floor. Roller conveyers carry castings to power conveyers, thus cutting down handling time.

ADVANCED ENGINEERING

Typical of our desire to keep ahead of your requirements is the leading part played by National Malleable engineers in the development first of the Standard Coupler and then of the Tightlock Coupler. Because of our advanced engineering on these and many other "National" products, your payloads have been increased and your operating costs decreased.



A.A.R. Tightlock Coupler for passenger car service



A.A.R. Standard E Coupler

A.A.R. Alternate Standard E Coupler

EST. M&S Co 1868

WE'RE BETTER PREPARED THAN EVER TO MERIT YOUR *Confidence*

During our many years of serving the railroads, we have felt that your confidence in us has been the most important reason for our continued enjoyment of your business. We have always endeavored to earn this confidence by giving you sound designs, quality production and painstaking attention to your needs.

We believe that now we are better prepared than ever to merit the continuance and increase of this confidence. Substantial improvements in our physical facilities are enabling us to produce your locomotive, freight and passenger car products faster and better. The pioneering activities of our engineering group are proceeding apace, to enable you to give faster and safer service to *your* customers.

More than ever before, *you can deal with National Malleable . . . with confidence.*

NATIONAL MALLEABLE & STEEL CASTINGS COMPANY

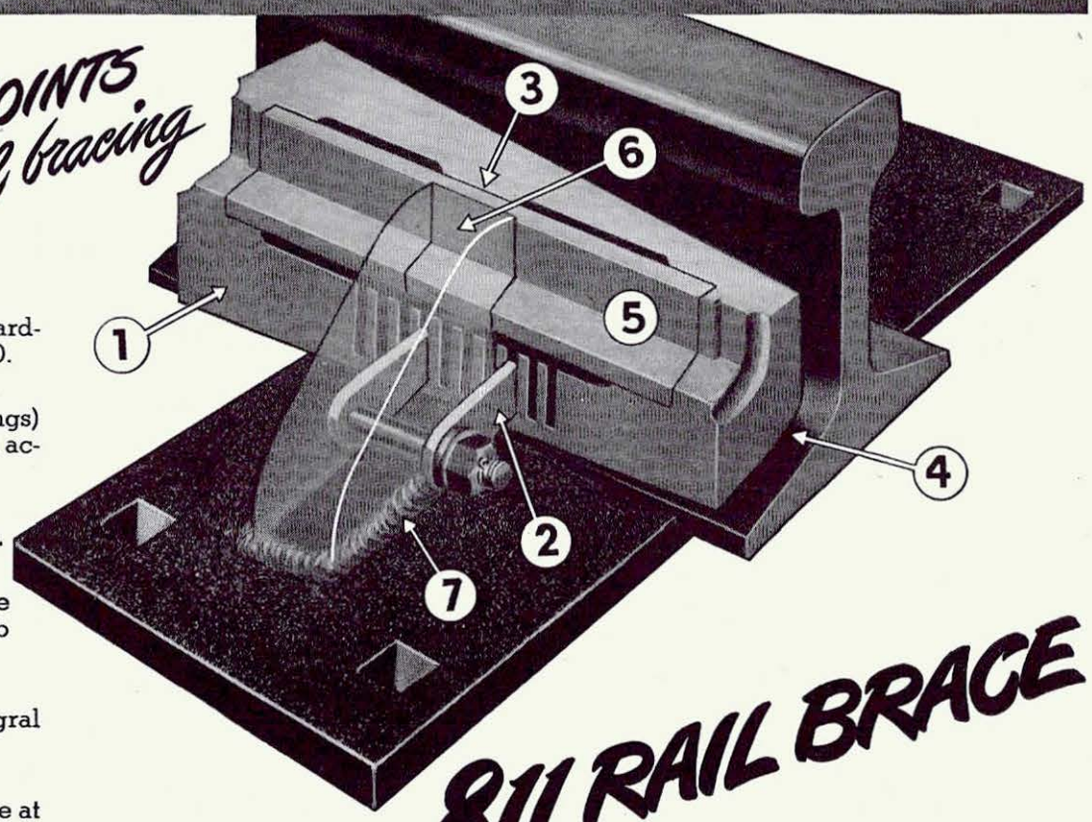
Cleveland, Ohio

Sales Offices: New York, Philadelphia, Chicago, Richmond, St. Louis, San Francisco.
Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 120, No. 17.

The WEDGE for *Tightness*
The SPRING for *"Give"*

These 7 POINTS mean real bracing



1 Wedge. Brinell hardness of about 400.

2 Two pawls (forgings) with synchronized action.

3 Compression stop.

4 Contours of wedge fit base and web of rail.

5 Steel spring, integral with wedge.

6 Thick, heavy brace at right angles to plane of contacting surface.

7 Switch plate and brace welded together.

811 RAIL BRACE

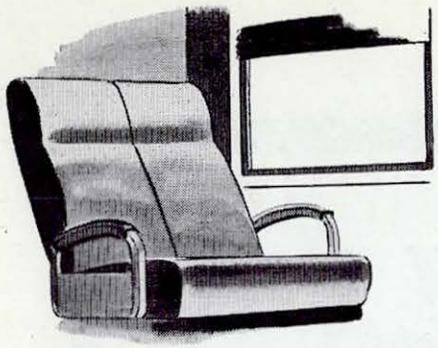
Bethlehem's 811 Rail Brace is a simple device that presents no installation problems. Yet, despite its simplicity, this heavy-duty brace has many features that are real trouble-savers.

One is the wedge, a heat-treated forging that lies snugly against the rail flange and web. It is easily adjustable to provide a tight, rigid fit and compensate for differences in rails. Synchronized pawls on the brace engage slots in the wedge . . . so that it always "stays put."

Another feature, providing for resiliency and recovery from side thrust, is the rugged steel spring. This piece is integral with the wedge proper. It will withstand a compression force of at least 20,000 pounds.

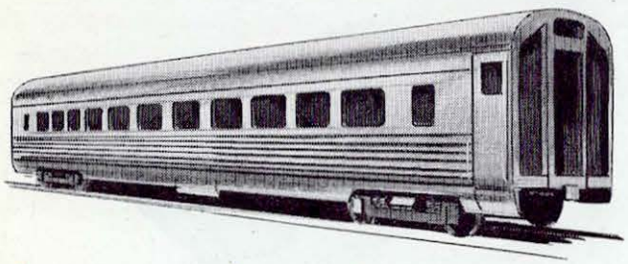
Here's a brace that combines exceptional strength with a definite cushioning action. For further details, write Bethlehem Steel Company, Bethlehem, Pa., or the nearest District Office.

BETHLEHEM STEEL



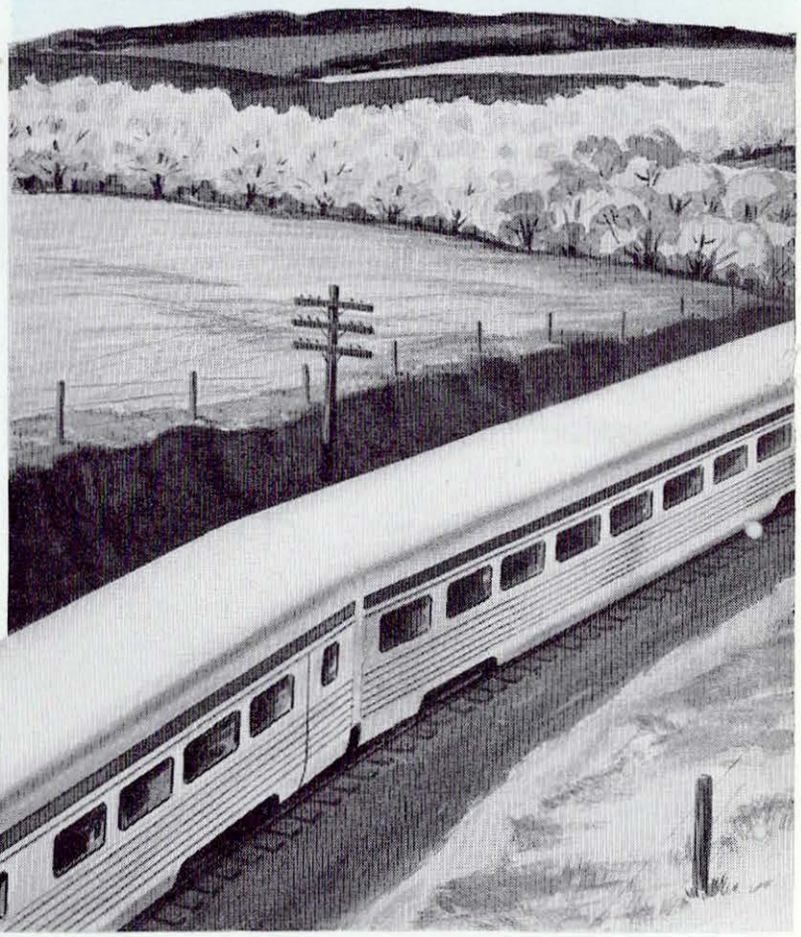
BEAUTY THAT THE PUBLIC

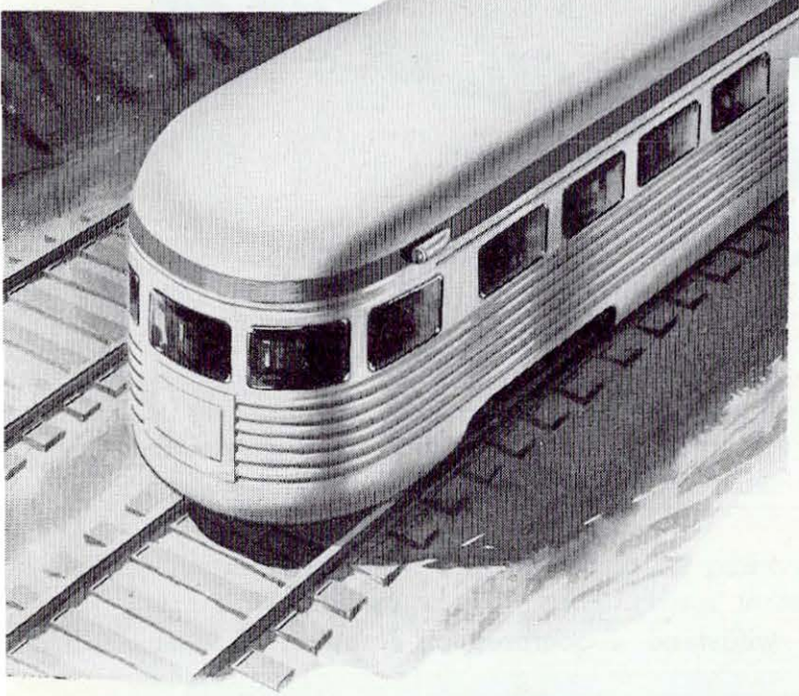
You're ahead in the public's mind, when you specify Alcoa Aluminum for such eye-appealing specialties as baggage racks, windows, and seat bases. It looks—and stays—beautiful, reduces its share of maintenance, cuts its share of weight . . . *but*



You're ahead more

when you specify Alcoa Aluminum for an entire coach, for lower operating costs begin to show on the books! Aluminum in the car body has a higher strength-weight ratio than any other material. It's safer, stronger; for massive sections, heavy gauge plates and shapes may be used. Exterior beauty may be gained with a side girder design using countersunk rivets to join heavy gauge sheet and plate to full size rolled and extruded shapes. Special finishes may be used to add surface beauty.



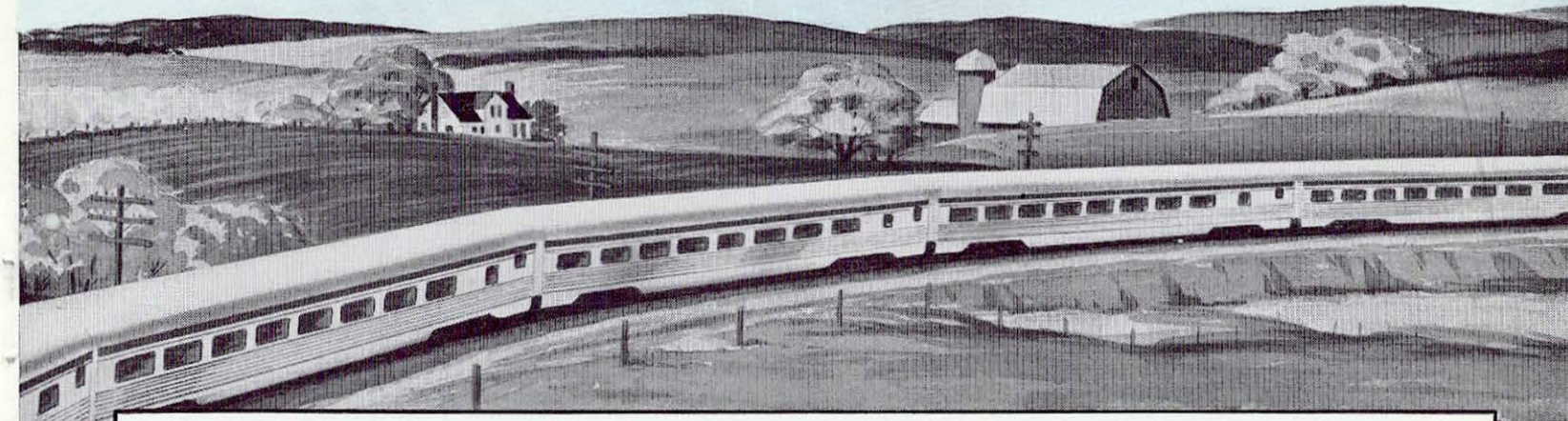


You're way ahead!

when you start coupling up all-aluminum trains! That's when your maintenance-savings and weight-savings per specialty item, and per coach, mount into many dollars per month. And you'll find that the simplicity of aluminum car design and construction makes maintenance even easier. No elaborate or expensive welding equipment is required to repair and maintain the aluminum car body.

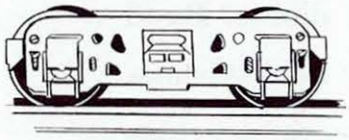
Modern Railroading Calls for MAXIMUM Economies

SEES *Plus* BEAUTY ON THE BOOKS !



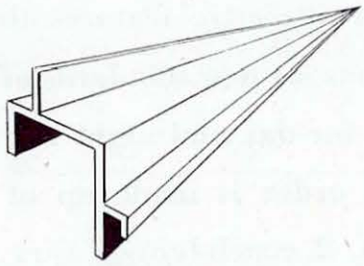
Alcoa Does Not Build Railroad Equipment . . . But Makes These Modern Materials and Methods Available To Those Who Do . . .

SHEET & PLATE of Alcoa Aluminum is easily formed, never rusts. Available in a range of alloys and finishes to meet the needs of every job.



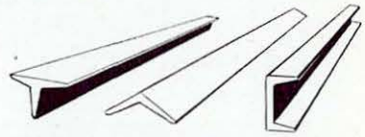
FORGINGS of Alcoa Aluminum appeal to Imagineers for tough, high-strength parts . . . truck side frames, for example. They offer an exceptionally high strength-weight ratio.

TUBING of Alcoa Aluminum is available in a wide range of stock sizes, shapes, alloys and finishes, for structural or decorative parts.



EXTRUSIONS of Alcoa Aluminum, like this complex 80-foot length for a passenger car sill, save weight, machining, and assembly costs; add strength. Die costs are surprisingly low.

CASTINGS of Alcoa Aluminum may be made by sand, die, or permanent-mold process. Large, complex aluminum castings save machining, produce light, strong specialties.



STRUCTURAL SHAPES of Alcoa Aluminum are available from stock to form light, strong structural members in freight or passenger equipment or railway buildings.

ALUMINUM RAILROAD EXPERIENCE—the greatest fund of it in the world—will help you gain these advantages when you build or write specifications for your equipment. This experience is available from Alcoa engineers, who will stay with your problem of alloy, fabrication, and finish until they're solved. For the maximum economies that modern railroading calls for, get in touch with your nearest Alcoa sales office today, or write ALUMINUM COMPANY OF AMERICA, 2178 Gulf Bldg., Pittsburgh 19, Pa.

ALCOA FIRST IN **ALUMINUM**

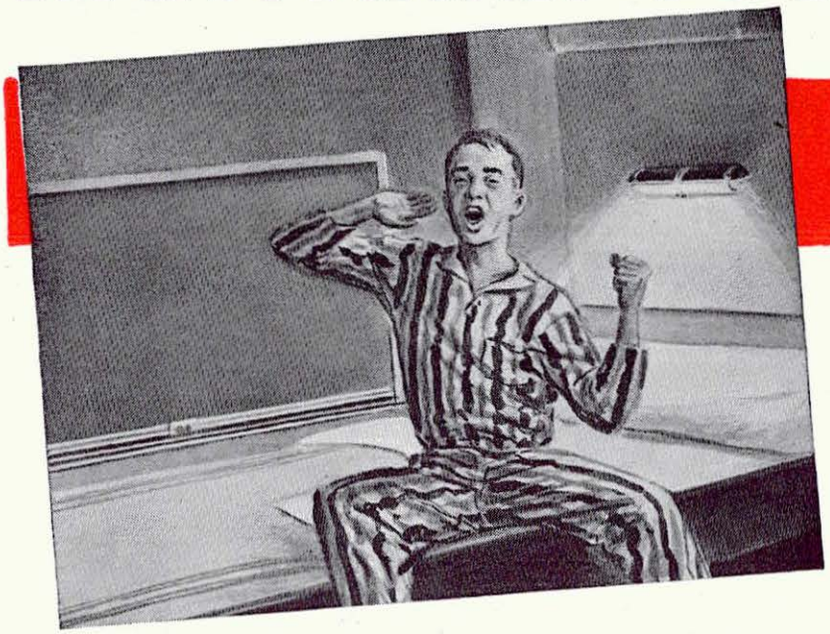
PENNSYLVANIA

BUDD BUILT

Recently the Pennsylvania Railroad placed an order with Budd for 70 stainless steel cars. Fifty of these cars are individual room cars, each having 21 rooms. Of advanced design and replete with attractive features these single occupancy rooms set new standards of convenience and luxury for day and night travel. The remainder of this order is made up of 6 kitchen-dormitory cars, 2 coach-lounge cars and 12 diners. Budd is now constructing 22 cars for the Pennsylvania Railroad on a previous order. These will be used in service to Florida.

EDWARD G. BUDD

RAILROAD SELECTS individual room cars



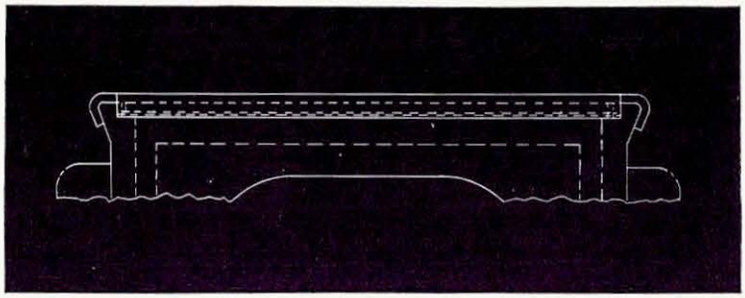
By ingenious use of the floor area and placement of room appointments the design brings a new high in luxury and convenience to individual room accommodations for day and night travel. Every room is on the main floor of the car and of full height, with its own broad window, adjustable reclining seat, toilet, folding wash basin, mirror and shoe cabinet. The folding pre-made bed is very easy to lower and raise. The night table and spacious wardrobe add to the comforts of night travel.

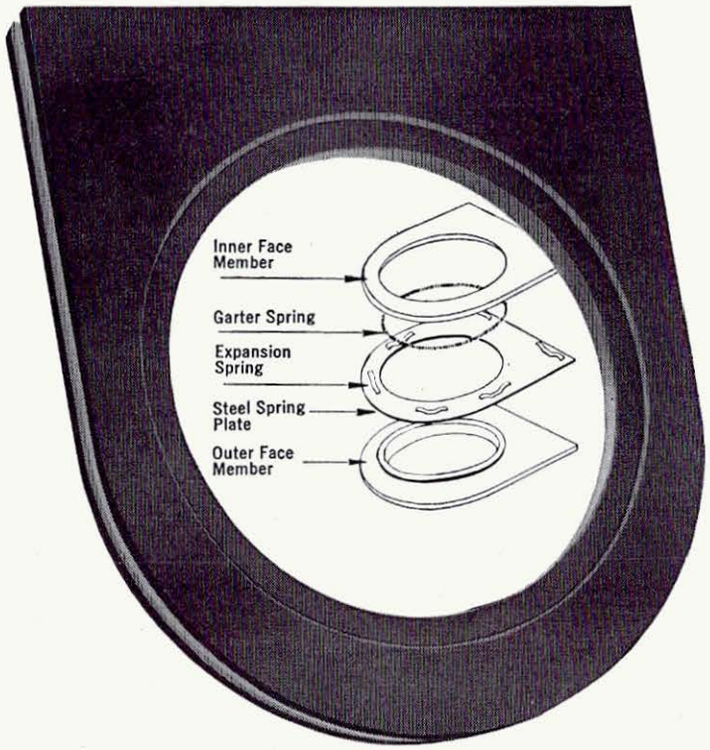
MANUFACTURING COMPANY, PHILADELPHIA 32, PA. Budd

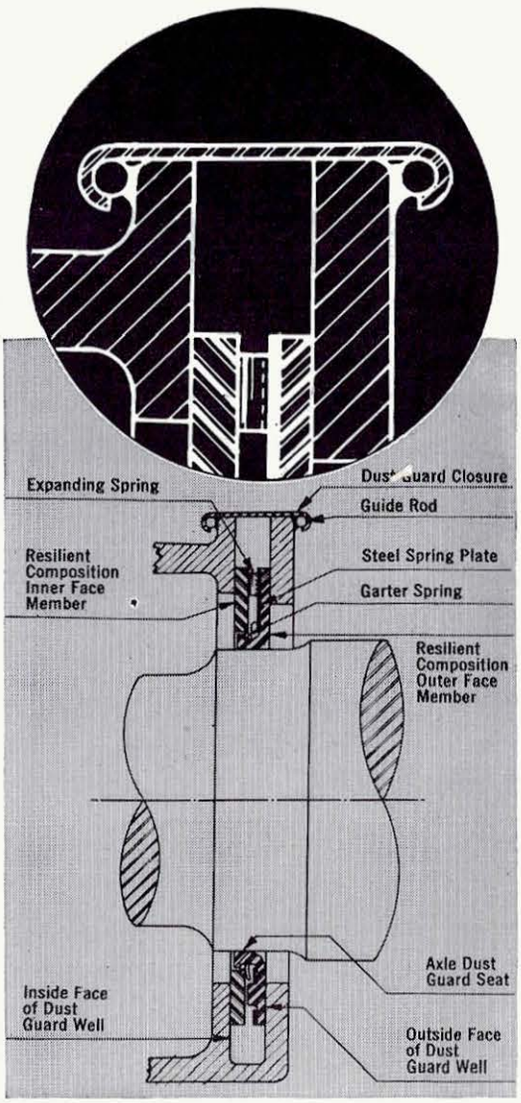
AMWELD

METAL DUST GUARD CLOSURES
and
EXPANDING DUST GUARDS

AMWELD Expanding Dust Guards and Metal Dust Guard Closures assure positive protection against the accumulation of water and abrasive dust in journal boxes. Their performance is not affected by oil, moisture, dust, ice or temperature. They protect journal boxes and all contained parts, thereby reducing lubrication costs and hot boxes to a minimum. They increase the life of bearings, journals and packing. For more detailed information please write us.



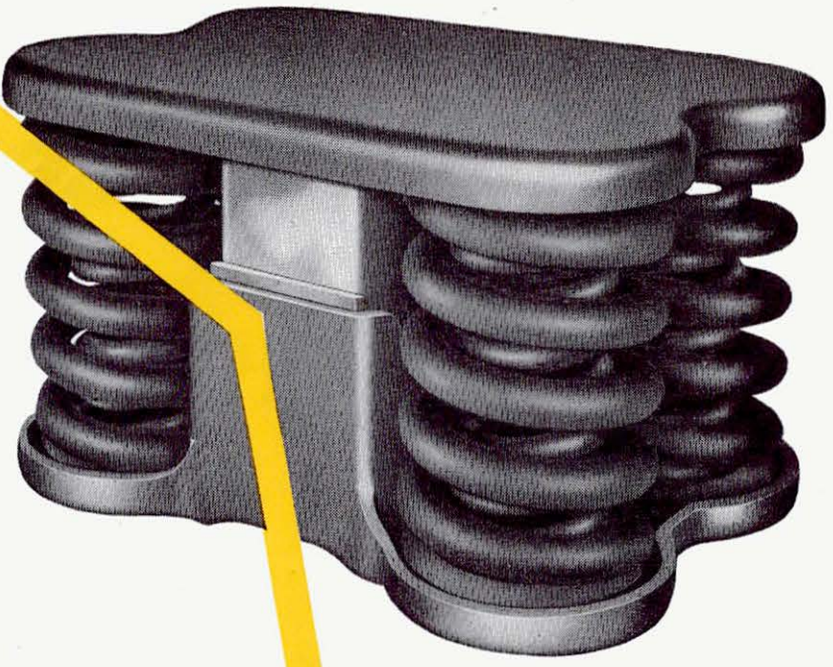




RAILWAY EQUIPMENT DIVISION

THE AMERICAN WELDING AND MANUFACTURING CO.

2020 GRISWOLD STREET • WARREN, OHIO



Controls bolster motion—*up, down, across-track*—gives existing freight car trucks a soft, smooth EASY RIDE at all loads, all speeds!

A self-contained, self-controlled unit with springs precompressed, ready for application. Replaces ordinary A. A. R. coil spring groups. Operates on the same principle as the A.S.F. Ride-Control Truck (A-3).

THE NEW A·S·F *Ride-Control* PACKAGE

LONG-TRAVEL SPRINGS *and* CONSTANT FRICTION CONTROL

...ALL IN ONE SELF-CONTAINED UNIT

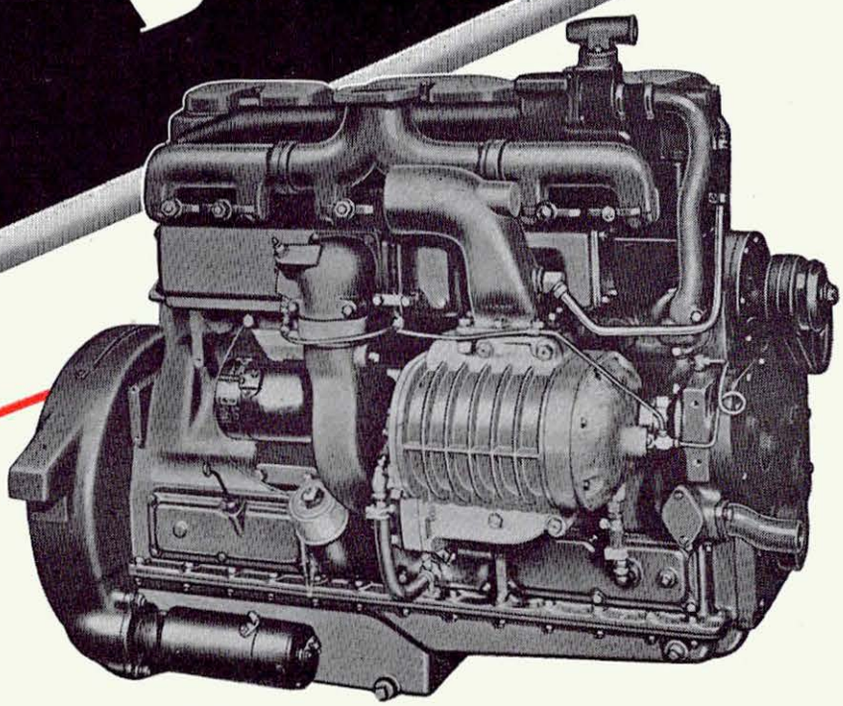
Ask Your A.S.F. Representative for a Comparative Performance Report

AMERICAN STEEL FOUNDRIES

Reduce Costs . . . Improve Schedules

with

CUMMINS *Dependable* DIESELS



Cummins Diesel Railroad Equipment Co., Inc., 1030 Leggett Avenue, New York 55, New York

CUMMINS ENGINE COMPANY, INC., COLUMBUS, INDIANA

MOLYBDIC OXIDE—BRIQUETTED OR CANNED • FERROMOLYBDENUM • "CALCIUM MOLYBDATE"
CLIMAX FURNISHES AUTHORITATIVE ENGINEERING DATA ON MOLYBDENUM APPLICATIONS.

Climax Molybdenum Company

500 Fifth Avenue · New York City

MOLY

Built TO INCREASE

MORE TON-MILES

Conservatively rated, the "1500" has plenty of extra power for heavy drags. Optional traction-motor gearing permits you to select the speed and tonnage characteristics best suited to your hauling demands. As a result, you can improve schedules and improve service to your shippers. You can sell—and haul —more ton-miles with the "1500."

IMPROVED HANDLING

Last year railroads paid approximately $100,000,000 in claims for damaged shipments. To help you reduce this item of loss and improve service to your customers, the "1500" employs a unique new power plant regulating system. This control combines the advantages of hydraulic and electric systems to provide smoother stops and starts, gentler handling all along the line. You can sell—and haul safely—more ton-miles with the "1500."

LOWER OPERATING COST

The "1500" is powered by a great new turbosupercharged Alco diesel-engine whose efficiency and low fuel consumption have been proved in tests both in the laboratory and on the road. More of your revenue per ton-mile becomes net operating profit with the "1500."

HIGHER AVAILABILITY...

Built specifically to operate 1,000,000 miles before a major overhaul and to minimize the time required for routine inspection and servicing, the "1500" can be counted on for real availability of 90% and higher.

...and GREATER UTILIZATION

With its wide range of power and speed, and its flexible, multiple-unit construction, the "1500" has the versatility to handle many different types of haulage. As a single unit, it is suitable for fast transfer work or light hauls; in combination with other units, it will successfully handle the heaviest drags. You can utilize all of your diesel-electric's high availability when it's a "1500."

LOWER MAINTENANCE COST

When maintenance and repair do become necessary, they can be accomplished with a minimum amount of time and expense. Every part of the diesel-electric locomotive is designed for maximum accessibility. "Packaged" equipment permits quick interchange of entire units. Trips to the backshop will be few and brief with the "1500."

THE NEW 1500 HORSEPOWER

Alco GE

DIESEL-ELECTRIC

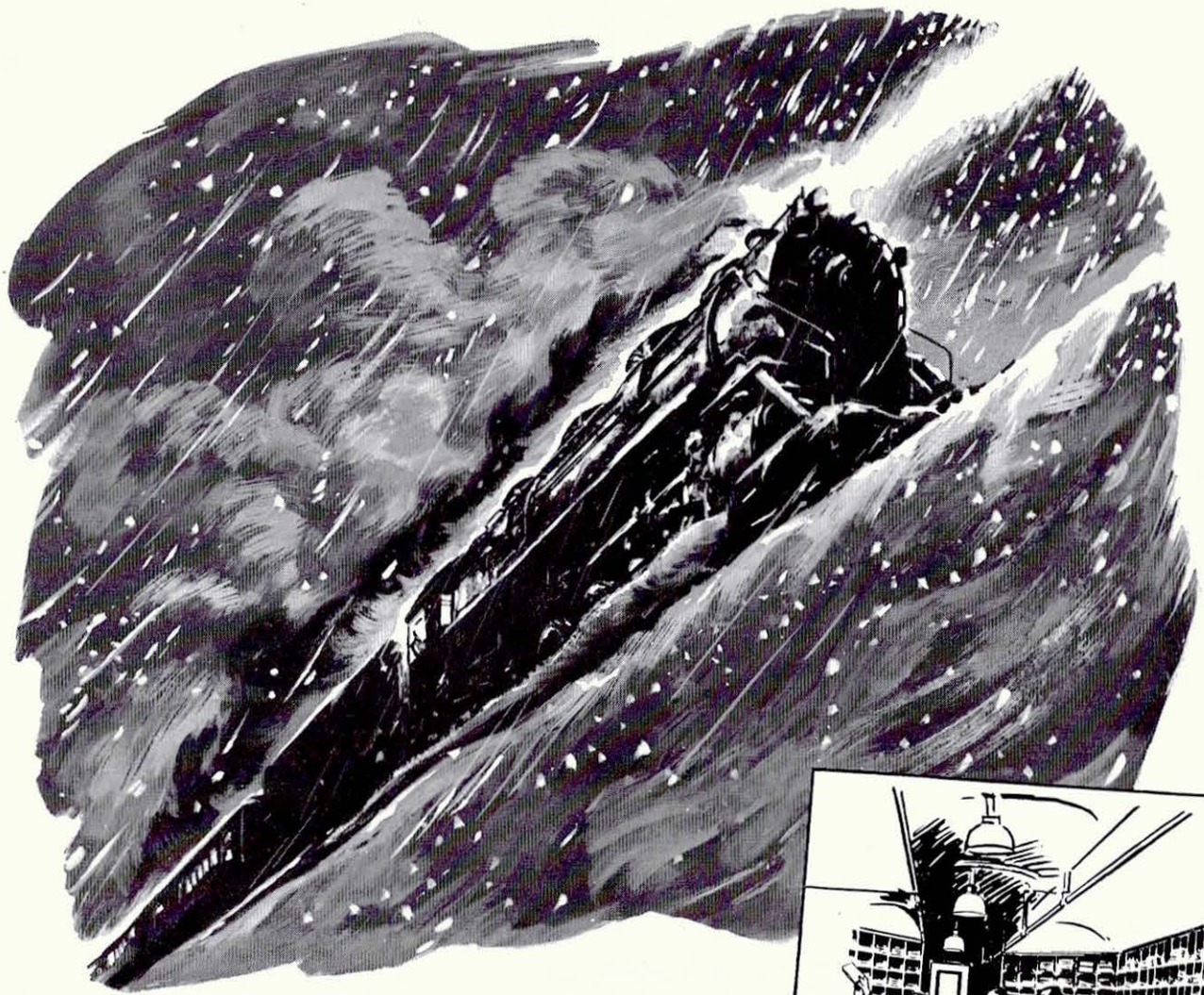
AMERICAN LOCOMOTIVE

RAILROAD EARNING POWER

113-164-9589

and GENERAL ELECTRIC

"NEITHER SNOW NOR RAIN . . . . . NOR GLOOM OF NIGHT"



There is a kinship between the railroads and the Railway Mail Service;

—a special relationship based upon their mutual sense of public responsibility;

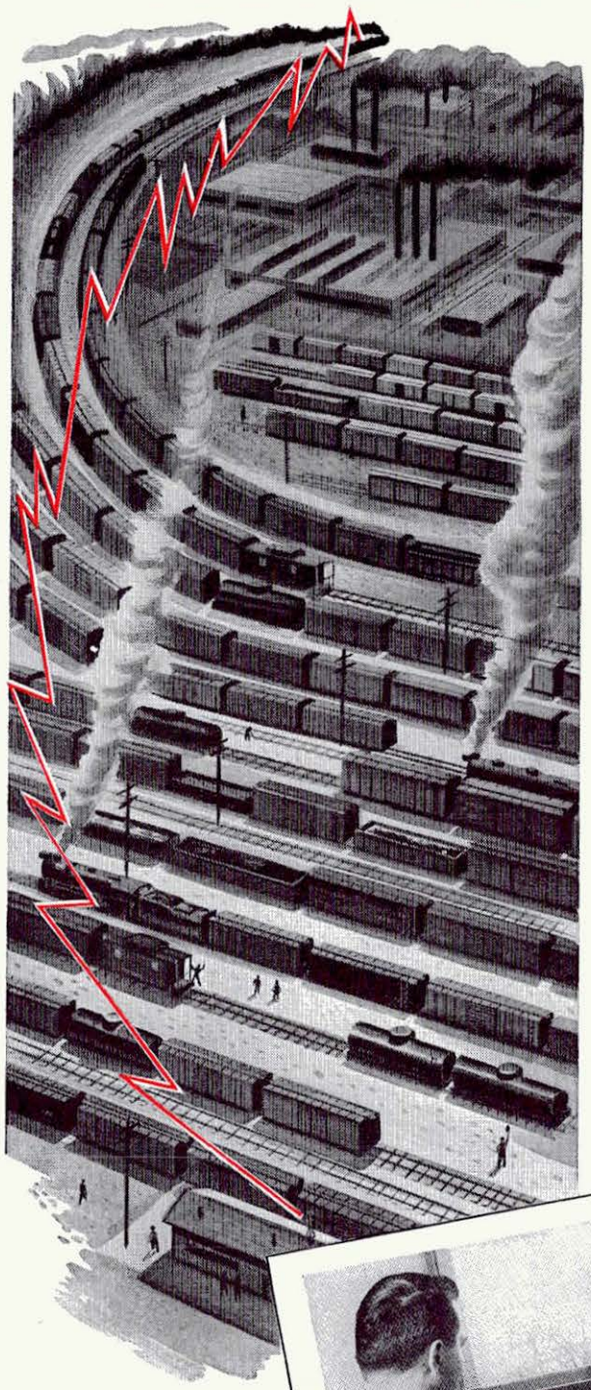
—a peculiar bond growing out of their dependence upon each other in the sure performance of an essential service to the nation and all of its people.

The service they render together is universal—reaching more than 42,000 railroad stations to and from which mail is handled. It is dependable—with mail trains making their runs every day, in every season and in all kinds of weather. It is economical—with first-class mail sent by rail providing surplus revenues which help support other valuable services of the Post Office Dept.

The AMERICAN RAILROADS

Santa Fe *speeds freight with*

BENDIX *V.H.F.* RADIO



Now at work in the Chicago Terminal of the Santa Fe—Bendix V. H. F. Radio is again proving its ability to save railroads time and money.

With two-way voice control over entire terminal area, the Santa Fe is speeding up freight break-ups, reclassifications and make-ups — direct yardmaster to enginemen verbal contact is providing the answer to delays caused by re-check call-ins and smoke, fog, snow or rain obscuring hand or light signals.

Completely flexible in operation, Bendix V. H. F. Radio is readily adapted to any phase of railroad communications without expensive duplication of equipment or costly installation requirements.

Ask for our engineers to show you how this integrated system can be adapted to your communication problem or write for descriptive literature, "An Integrated Train Communication System."

● Using an MS-102B Control Unit, complete verbal contact with entire yard area is maintained from this terminal operations office. Because of flexible frequency ranges Bendix V. H. F. Radio does not interfere with or suffer interference from any other communication system used in same general area.

BENDIX RADIO

BENDIX RADIO DIVISION . BALTIMORE 4, MD.

PRODUCT OF Bendix AVIATION CORPORATION

Rosemary

NAPERY... of the Nation!

In a city rich in historical background—home of Independence Hall and the Liberty Bell—Philadelphia restaurants, hotels, clubs, hospitals and railroads maintain the standards of the nation's first capital with fine tablecloths, napkins, tray covers and damasks by Rosemary. Permanently finished by the famed Basco Process, these smartly patterned or individually crested cloths are truly the

"NAPERY OF THE NATION"

PROMINENT AMONG PHILADELPHIA'S LEADING USERS OF ROSEMARY-BASCO NAPERY:

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PHILA. STATE
PRESBYTERIAN
JOSEPH PRICE
ST. AGNES
ST. MARY'S
ST. LUKE'S & CHILDREN'S MEDICAL CENTER
ST. VINCENT'S
SHRINERS
STETSON
UNIVERSITY OF PA.
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WILLS EYE

Restaurants
KUGLER'S
STOUFFER'S

Railroads
PENNSYLVANIA*

Colleges
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DOWNTOWN
GERMANTOWN CRICKET
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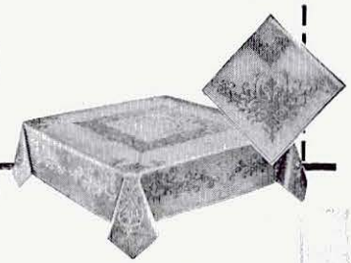
POOR RICHARD

**indicates users of crested napery*

Next to Good Food, People Prefer CLOTH-COVERED TABLES

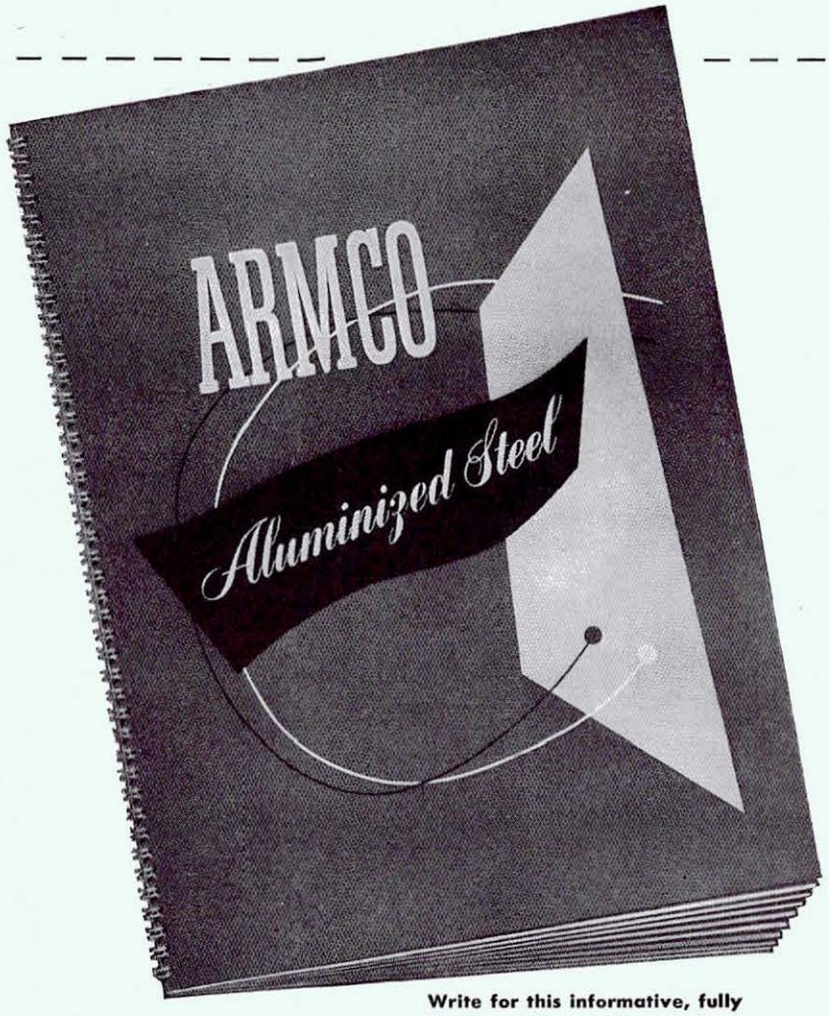
CLOTHS • NAPKINS and DAMASKS
Made *RIGHT* in America



ROSEMARY SALES
A Division of Simmons Company
40 WORTH ST., NEW YORK 13, N. Y.

"City of Brotherly Love," Philadelphia, the nation's third city, is also known as the "City of Homes."

ALUMINUM ON STEEL!



Write for this informative, fully illustrated book telling all about ARMCO Aluminized Steel. Just use the handy coupon below.

An important marriage has taken place in one of Armco's steel mills—the wedding of an aluminum coating to a sheet steel base.

This union of metals produces many advantages in products that require good resistance to corrosion and resistance to destructive heat scaling at high temperatures. The new product is called ARMCO Aluminized Steel.

This special-purpose sheet steel is coated with aluminum on both sides. It maintains a bright appearance even after prolonged heating up to 900° F., and resists destructive heat scaling up to 1600° F. It has excellent atmospheric corrosion resistance and high radiant heat reflectivity.

If you believe you could use aluminum coated steel sheets or coils on your locomotives or car parts, write us. Just fill in the coupon below and we'll send you a copy of the helpful informative booklet, "ARMCO Aluminized Steel." The American Rolling Mill Company, 2011 Curtis Street, Middletown, Ohio.

ALUMINIZED ARMCO STEEL

THE AMERICAN ROLLING MILL COMPANY

MAIL THIS TODAY!

Send me the new 24-page booklet, "ARMCO Aluminized Steel."

Name_____

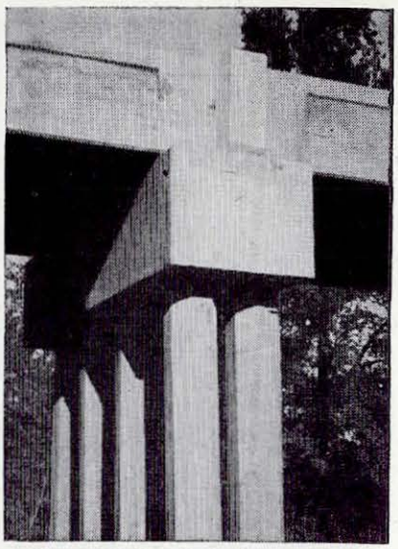
Company_____

Street_____

City_____ **Zone**_____ **State**_____

☐ **Check here if you want a sample of ARMCO Aluminized Steel.**

Recently constructed concrete pile and slab bridge over the Neuse River on the Atlantic Coast Line near Goldsboro, N. C.



Every fifth bent in the Neuse River bridge is an anchor bent with double row of piles.

CONCRETE Pile and Slab Trestles Demonstrate Long Term Economy

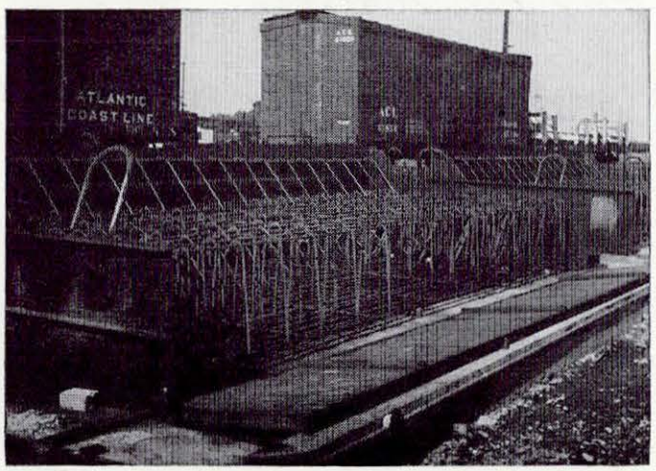
Assembling steel forms for concrete piles. Reinforcing steel is suspended by wires from spacer yokes which hold form in position at top.

Concrete pile and slab trestles adapted as standard in 1926 by the Atlantic Coast Line in a trestle replacement program have conclusively demonstrated long life, low maintenance expense and firesafety. This construction continues to be standard on the Atlantic Coast Line.

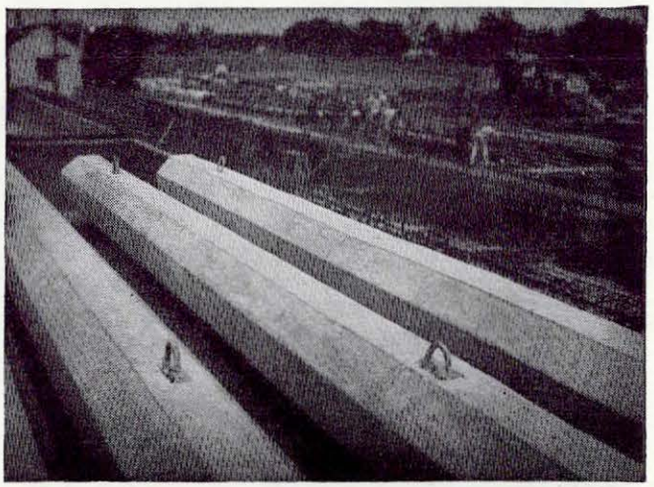
PORTLAND CEMENT ASSOCIATION

Dept. 4d-26, 33 W. Grand Ave., Chicago 10, Ill.

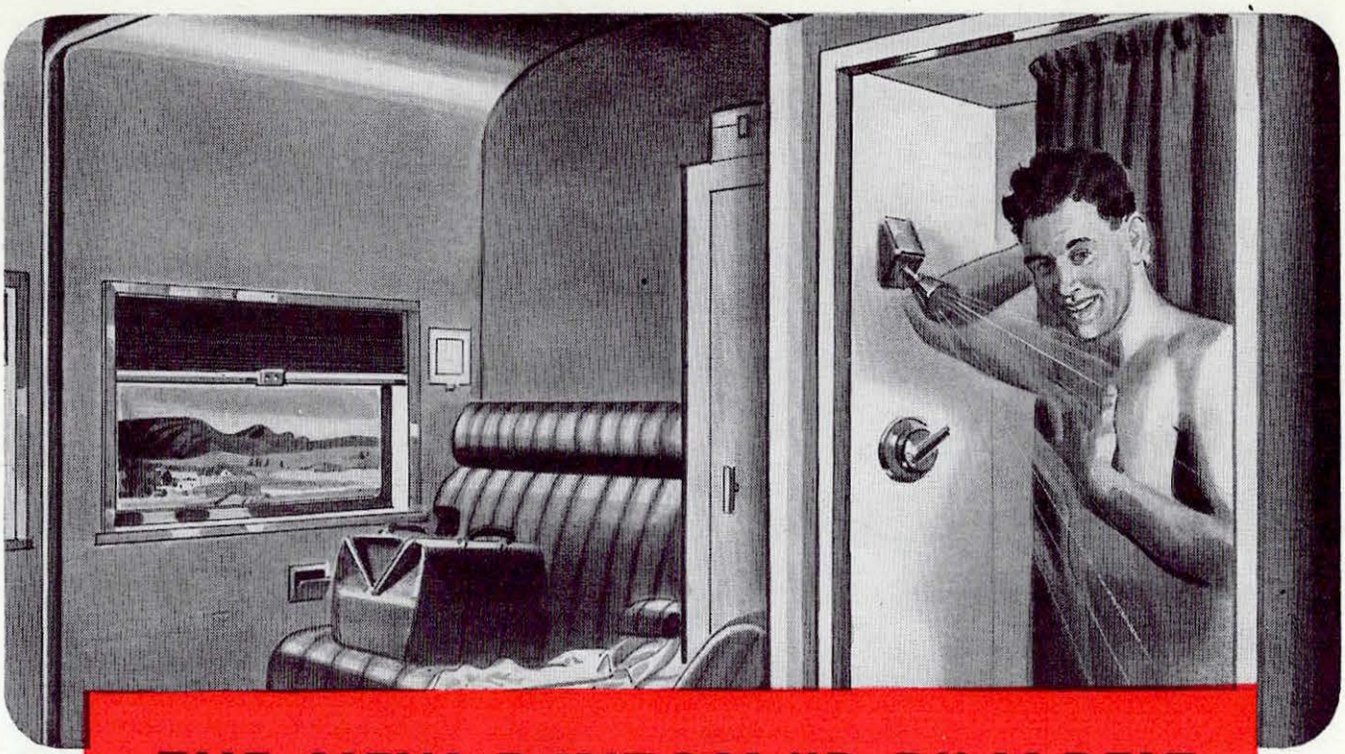
A national organization to improve and extend the uses of concrete . . . through scientific research and engineering field work.



Reinforcing steel assembly for concrete trestle slab. V-strips seen on one side of form are inserted to make drain holes between abutting slabs.



Finished concrete piles loaded on car ready for shipment from Atlantic Coast Line casting yard. Lifting rings cast in piles to facilitate handling are burned off when pile is driven.

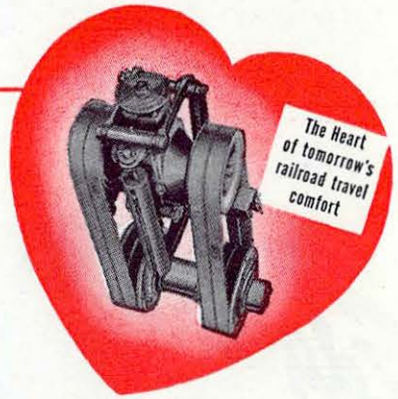


THE NEW DAYTON "D-R" V-BELT IS BUILT FOR CARS LIKE THIS

Better than the famous Dayton prewar V-Belt, the NEW Dayton "D-R" V-Belt is designed to give well over 150,000 miles of trouble-free service on cars like the new Bedroom-Shower Bath car pictured above.

All the "know-how" that went into the manufacture of Dayton's prewar V-Belt, *plus* the knowledge gained from intensive war research and production has gone into the design and construction of this *better* Dayton "D-R" V-Belt. That's why it is able to deliver perfect performance in the cold, snow and ice of winter, and the heat, dust and dirt of summer.

Now used on over twice as many air-conditioned cars as any other drive, the NEW Dayton "D-R" V-Belt makes possible the utmost in under-car drive dependability. Write today for full information to The Dayton Rubber Manufacturing Company, Dayton 1, Ohio.

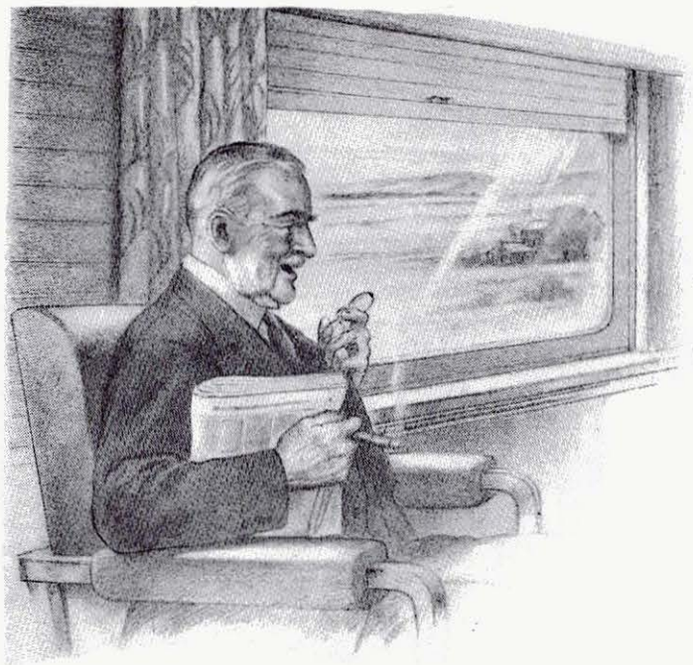


Advantages of the Dayton "D-R" V-Belt Axle Drive

1. Quiet and smooth performance with high availability—in 15 years a mechanical failure due to V-Belts has never been reported.
2. Provides a flexible, cushioned connection between the car axle and the driven unit that protects generators and other equipment should a mechanical failure occur.
3. It is convenient and economical to install . . . no complicated or expensive truck changes are necessary . . . no special axles are necessary.
4. Duplicate equipment is not necessary to take care of emergencies—when wheel changes must be made, only the axle pulleys need to be removed.
5. It greatly reduces maintenance cost on mechanical equipment as well as on the drives.
6. It imposes a minimum weight on the car axle.
7. Easy and simple to install, dependable in operation, and insures uninterrupted performance.

V-Belts by **Dayton Rubber**

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER



Railroads Are Good Neighbors, *says* *R. R. Rider*

(Number three of a series)

Two rival railroads are very much like a couple of grocers in the same block; each is out to get all the business it can. That's only natural, and a good thing too, for the traveler and shipper — and the grocery shopper — benefit from constantly improved service. Yes, I've noticed how two railroads will fight like the dickens, yet turn right around and show a spirit of neighborliness much like that of a storekeeper who helps a competitor out with a case of canned peas.

Let me show you what I mean. Remember the big floods in the Spring of '36? I was going to Chicago about then. I'd heard about the floods but paid little attention. The trains were running; I had a ticket, and that was enough for me. The railroad would get me there somehow; it always had.

It was a late train and I went right to bed. Slept soundly, as I always do, so I noticed nothing until I raised the shade and looked out of the window next morning. We were passing through a town I recognized, but it was on another railroad! Of course it was plain why we'd been re-routed during the night, but I was curious as to how it had been done. I figured this was a chance for the road outside the flooded area to get some of the other's customers, but here it was, letting a rival use its tracks.

Later in the washroom everyone was talking about the shift. One fellow was an official of the railroad. He said that all arrangements between the two roads had been made in a few minutes; no red tape, no palaver. You know, I got to thinking that here was another good argument for private enterprise. Suppose those two lines hadn't been independent? What if it took a government directive or something to route those trains over lines a hundred or so miles away? You know the answer. You can picture me, cooling my heels in New York instead of being well on my way to Chicago.

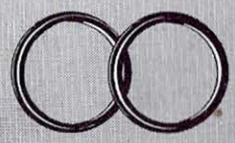
Besides, I don't believe that accommodating railroad lost any business by its helpfulness, and there may be a day when the favor will be returned; if that hasn't happened already.

Edgewater

Serving America's Railroads

RING SPRING DRAFT GEARS

ROLLED STEEL WHEELS



LOCOMOTIVE TIRES

EDGEWATER STEEL COMPANY · PITTSBURGH, PA.

Atlanta — Baltimore — Boston — Chicago — Cleveland — Kansas City — Louisville — New York
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FEDERAL's "*Speech + Duplex*" PROVIDES...

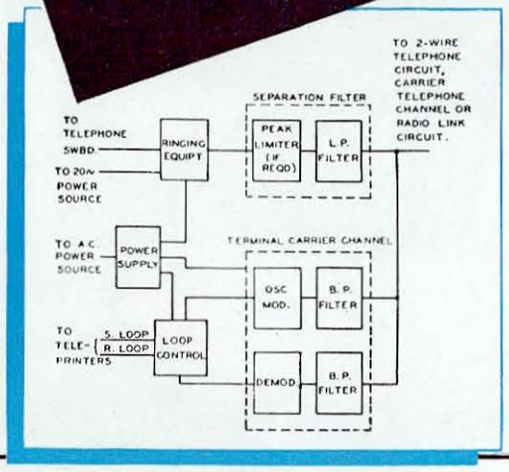
...on the same circuit ... at the same time!

...*with this* FTR 9-C-1 CARRIER TELEGRAPH SYSTEM

NOW YOU can multiply your message capacity *without* building new lines. Two-way teleprinter traffic—up to 100 words a minute—travels over your present telephone circuit... and you retain use of the speech channel! Your telephone channel will handle carrier telegraph signals and the voice simultaneously.

This carrier equipment provides either full or half-duplex telegraph operation. The telegraph transmission doesn't affect speech intelligibility. It will work over noisy circuits—telegraph distortion due to noise and interference is practically eliminated by frequency modulation.

The units of Federal's 9-C-1 equipment can be interconnected to meet a variety of requirements. Two Federal 9-C-1 carrier telegraph systems can be applied to each channel of a carrier or radio telephone system. Built to highest engineering standards, Federal's "speech-plus-duplex" is available now for use on all telephonic installations, including private lines of railroads and pipe line companies. Write for details and Federal technical assistance.



Federal Telephone and Radio Corporation

Export Distributor:
International Standard Electric Corporation

Newark 1, New Jersey

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MEET YOUR STAR SALESMEN

Velon*

SOILPROOF BEAUTY LURES PASSENGERS

Velon makes interiors of lighter, brighter, passenger-enchanting colors practical. *Velon* cuts upkeep cost to an all-time low. One quick wipe of a cloth dampened with water or cleaning fluid instantly restores the soilproof beauty of its non-absorbent threads. Years of wartime use in rail, bus and air lines prove *Velon* will never buckle or bag out of shape—can't snag, scuff or conduct heat. Start specifying *Velon* now from your regular fabric sources. Firestone will gladly supply them with *Velon* yarn samples and full technical advice.

FOAMEX*

LASTING COMFORT BRINGS THEM BACK

Foamex puts a cloud of magic, air-cooled buoyancy (millions of breathing, super-soft air-and-latex cushions) between passenger and fatigue. *Foamex* replaces old-style upholstery stuffing and innards with *one* sag-proof, lump-proof material. Years more "brand-new" wear, proved by *extra* wartime use on railroad, highroad and skyroad. Now, electronic processing makes *Foamex* still more durable. For the *greatest* seating luxury at *lowest* maintenance cost—insist on *Foamex!* Write Firestone, Akron, Ohio, today for complete details.

BEST TODAY··· STILL BETTER TOMORROW

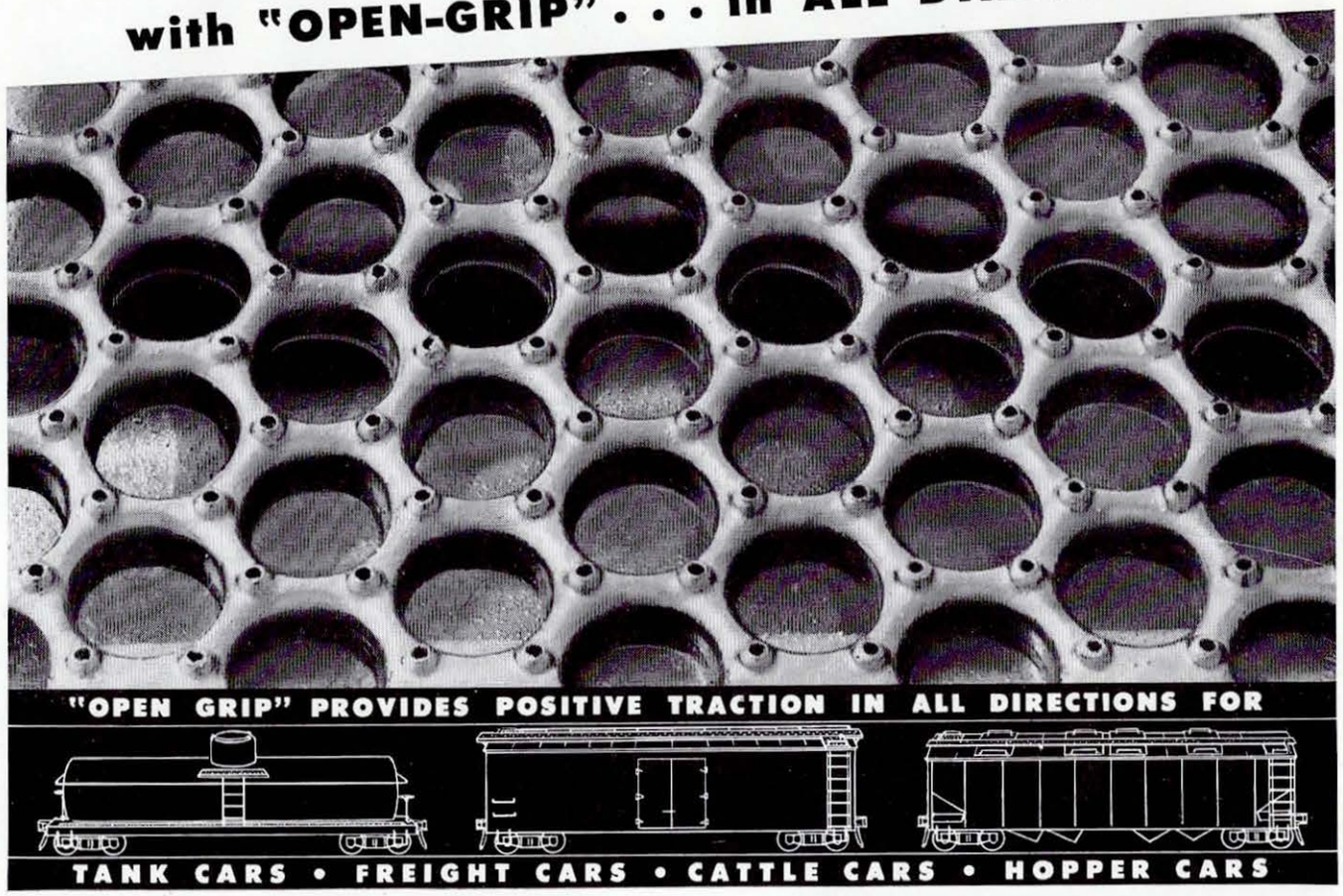
Firestone

®TRADE MARK

LISTEN TO THE VOICE OF FIRESTONE MONDAY EVENINGS OVER NBC

Surest Footing

with "OPEN-GRIP" . . . in ALL DIRECTIONS

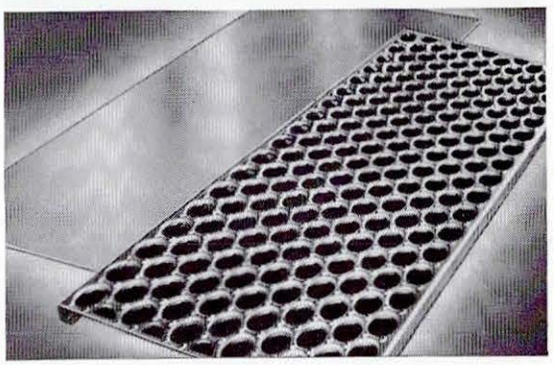


"Open-Grip" Safety Tread Provides Surest Footing

Where safety is a major consideration both in reconditioning and building of new equipment for modern, high-speed, running schedules, safety-and-economy-minded railroads specify *Morton "Open-Grip"* metal runways and brake steps. They're thrifty in service and accident prevention . . . easy and quick to install . . . require no special tools . . . guaranteed to last lifetime of car body . . . nothing to work loose, warp, split or splinter.

Self-clearing "Open-Grip" construction will not collect snow, mud or rainfall . . . *provides positive traction from any angle.*

When service-worn equipment goes to shop for repair or overhaul, replace unsafe running boards with grips that give the safest footing. Specify Morton "Open-Grip" runways—for freight cars, tank cars, cattle cars, roofed hopper cars. Special adaptations are available for Diesel and Steam locomotive steps. For full information, please write:



One-Piece Metal Construction!

No lock-joints, bolts, rivets or welds! Runway is formed from solid sheets of heavy guage, rust-resistant metal. Cup-and-bolt device "clamps" runway into position. Designed to avoid precision work, fitting or matching application holes.

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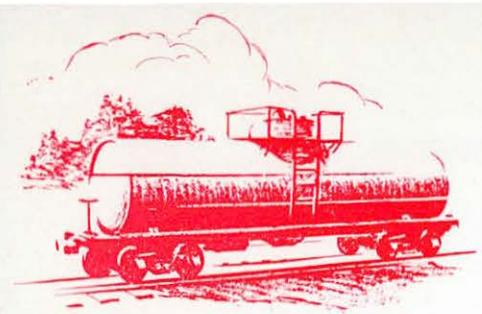
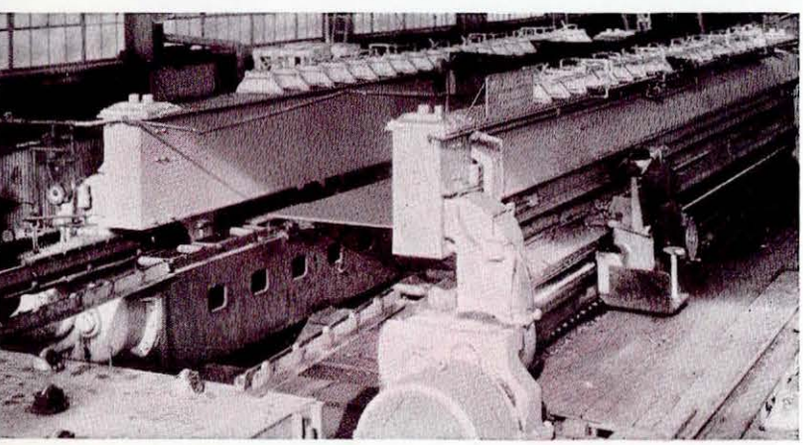


HERE'S THE "INSIDE STORY"

of how ACF builds high quality steel and alloy tanks

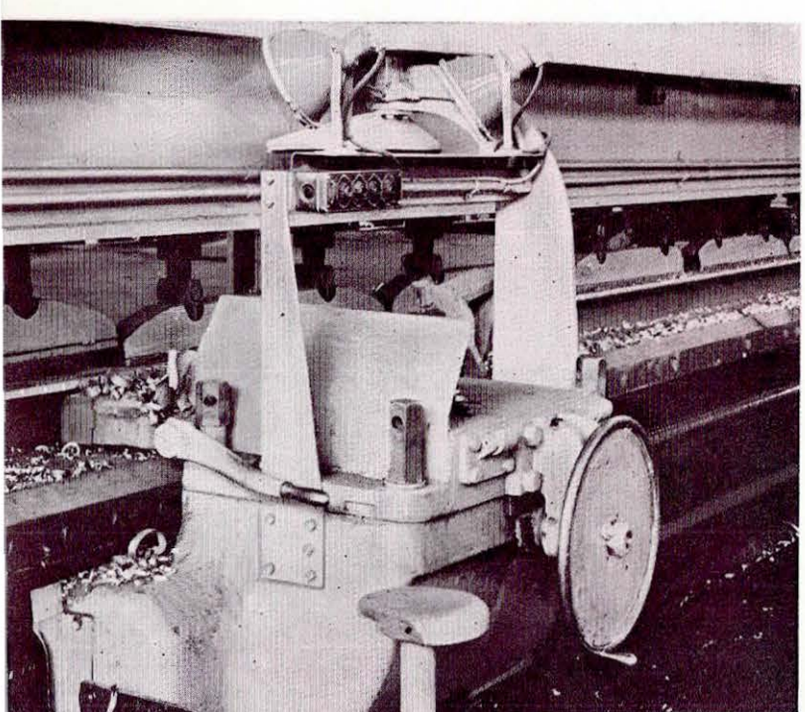
Let's take a tour "behind the scenes" of ACF advanced techniques in the manufacture of tank cars. More than 30 years of welding experience has resulted in the development of precision



machines and fixtures, skilled workmen, and manufacturing methods foremost in the industry.

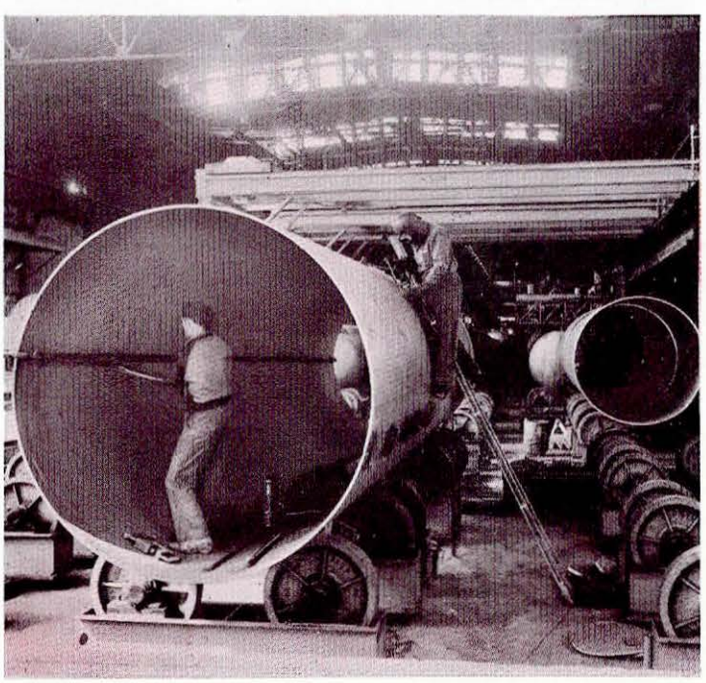
Start of a great Tank Car

In a single operation, this machine planes to width, trues the noses, and bevels the lower and upper edges of two parallel sides of the plate. Dimensions are controlled to .002 of an inch!



Then comes the "Fitting-Up"

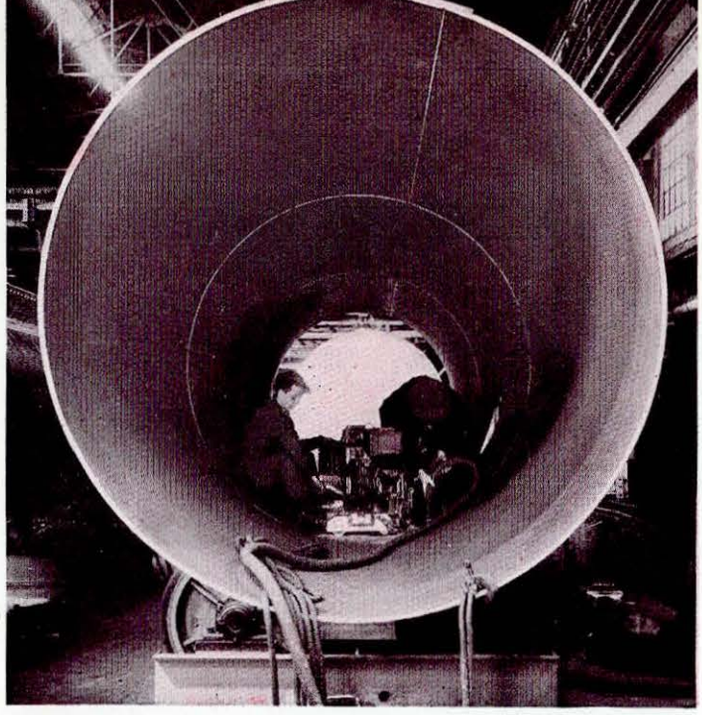
Planing accuracy facilitates "fitting-up" and welding as plates can be brought into intimate contact along the entire length of the joints—so precise that daylight does not shine through! Plates are shaped into cylinders by precision rolling; tank



heads are formed by hot pressing in huge hydraulic presses resulting in complete accuracy.

Unionmelt Welding

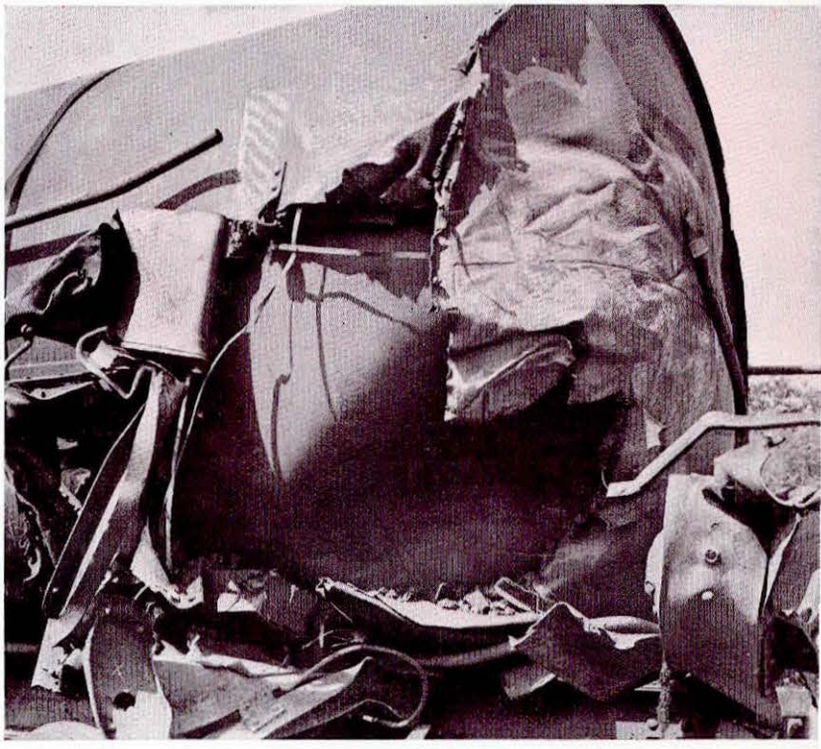
All joints of the tank, both inside and out, are made by unionmelt submerged arc welding. Feed of welding wire, type of flux, speed, and degree of heat—all are carefully controlled resulting in a smooth uniform high quality weld.



The required physical tests consistently *prove* tensile, yield and ductility of the weld metal are substantially *above* those of the parent metal and of the properties called for by the I.C.C. or U-68 specification.

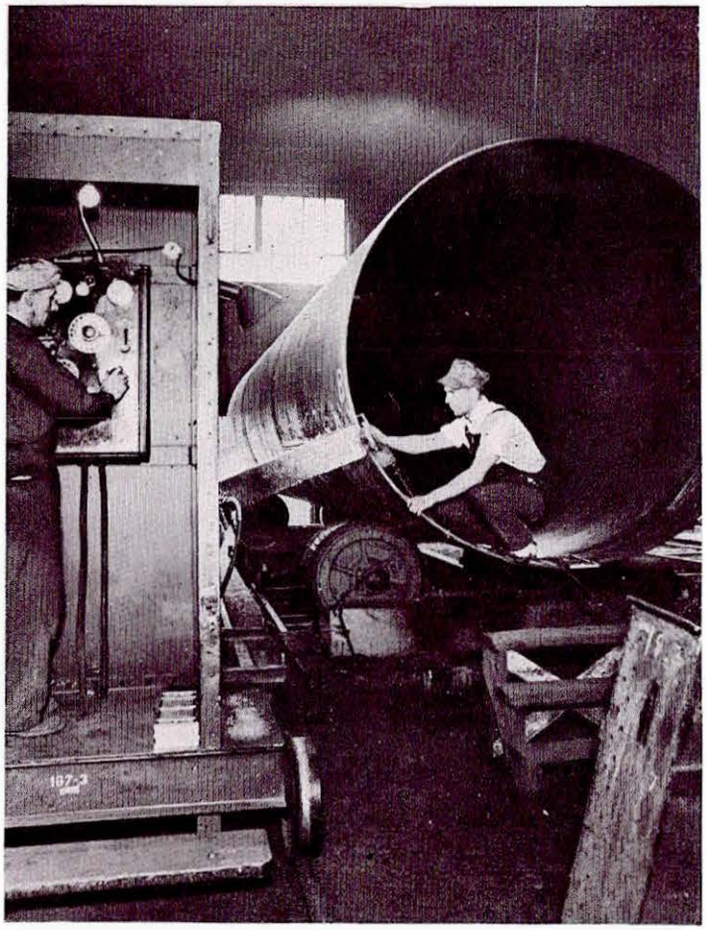
Tank Cars that can Take It!

Superior construction means these tank cars can take all kinds of punishment without rupturing the shell. High standards of quality contribute to long life, low maintenance costs, and safety of a.c.f. tank cars.



X-raying every inch!

Every inch of weld seams of an I.C.C. tank is X-rayed and the radiograph interpretation standard is deliberately set well above the I.C.C. requirement and the A.S.M.E. U-68 specification.



In the future look to a.c.f. for even better tank cars through continually improved manufacturing techniques.

a.c.f.

AMERICAN CAR AND FOUNDRY COMPANY

New York · Chicago · St. Louis · Cleveland
Washington · Philadelphia · Pittsburgh
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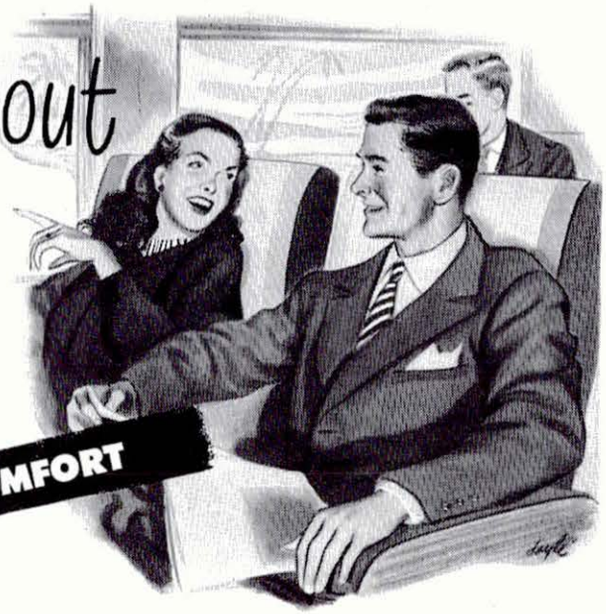
They differ about vacations

but they agree about

HEWITT RESTFOAM



...BEST BET IN RIDING COMFORT

There's smoother riding—deeper slumber—for your passengers on train seats and mattresses cushioned with Hewitt Restfoam.

Resilient foam rubber... designed for relaxation ... gives people *extra* comfort and enjoyment.

Your passengers will want to travel in trains equipped with modern, ever-comfortable Hewitt Restfoam, because it's

Extra Comfortable... yields to every contour of *any* person's body, yet offers firm *natural* support.

Keeps Its Shape... always returns to its original shape; nothing to pack or mat down.

Cool... self-ventilated by millions of tiny interlaced air cells.

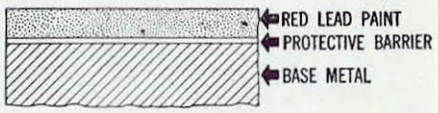
Sanitary... odorless, washable, vermin-repellent.

Long Lasting... far outlasts any ordinary cushioning material.

FREE! Send today for your copy of "Rest Assured With Restfoam." It tells you all about Restfoam—Best Bet in Riding Comfort. Write to Hewitt Rubber Corp., 240 Kensington Avenue, Buffalo 5, New York.

RESTFOAM *is made by* **HEWITT RUBBER** *of Buffalo . . . Quality Rubber Products for 86 Years*

Red Lead halts Rust-Producing ELECTRO-CHEMICAL ACTION



The invisible safeguard against corrosion
This diagram shows the interfacial film, located at the metal and paint-film interface. The formation and the maintenance of this shield by Red Lead halts electro-chemical action . . . safeguards the metal against rust.

No other protective paint for metal has ever known such wide acceptance by industry, through the years, as Red Lead. And recent scientific research has disclosed that Red Lead's outstanding performance results from basic characteristics of the pigment itself.

Not the least important of these is the ability of Red Lead to halt electro-chemical action — the fundamental cause of rusting.

In this action weak currents are generated, due to physical and chemical differences in the metal and to other factors. These lead to corrosion of the iron.

These factors are always present, but their effects are eliminated by Red Lead.

Here's what happens: Red Lead, because of its singular composition, possesses properties which enable it to form a compact, tightly adherent, protective film, located at the interface of the metal and the paint coating. See cross section diagram above.

This film — so thin that it is not apparent to the human eye — is in very intimate contact with the metal, and its formation halts electro-chemical action — and the corrosion of the metal.

Once formed, it is essential that the continuity of the film be maintained — if the shield is to be effective. When Red Lead pigmented paint is used, any small breaks in the protective shield, due to abrasive action or otherwise, are readily healed. The metal remains in a rust-inhibited condition as long as Red Lead coats the surface.

Specify RED LEAD for All Metal Protective Paints

The value of Red Lead as a rust preventive is most fully realized in a paint where it is the only pigment used. However, its rust-resistant properties are so pronounced that it also improves any multiple pigment paint. No matter what price you pay, you'll get a better paint for surface protection of metal, if it contains Red Lead.

Write for New Booklet "*Red Lead in Corrosion Resisting Paints*" is an up-to-date, authoritative guide for those responsible for specifying and formulating paint for structural iron and steel. It describes in detail the scientific reasons why Red Lead gives superior protection. It also includes typical specification formulas. If you haven't received your copy, address nearest branch listed below.

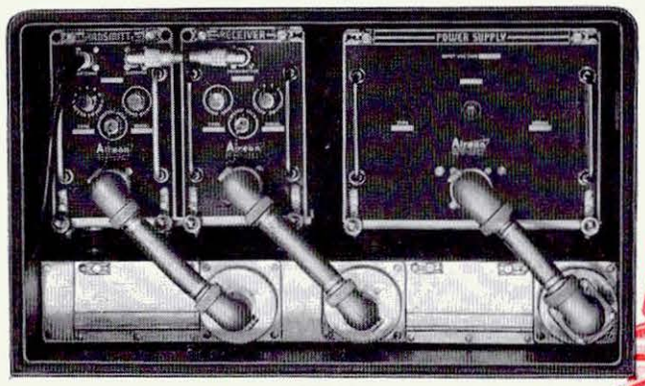
* * *

The benefit of our extensive experience with metal protective paints for both underwater and atmospheric use is available through our technical staff.

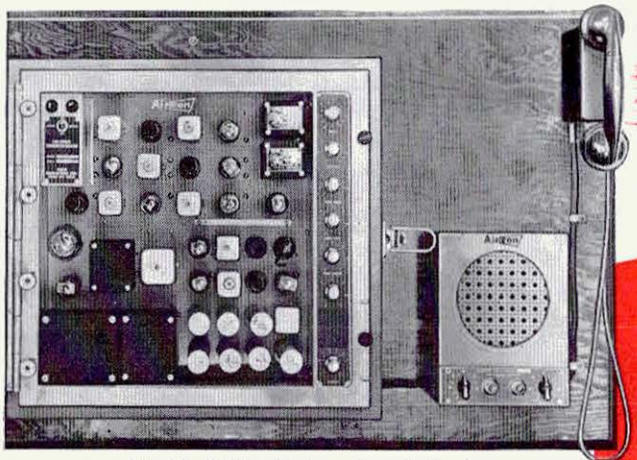
NATIONAL LEAD COMPANY: New York 6; Buffalo 3; Chicago 80; Cincinnati 3; Cleveland 13; St. Louis 1; San Francisco 10; Boston 6, (National Lead Co. of Mass.); Philadelphia 7, (John T. Lewis & Bros. Co.); Pittsburgh 30, (National Lead Co. of Pa.); Charleston 25, W. Va. (Evans Lead Division).

Dutch Boy
Reg. U. S. Pat. Off.
Red Lead

Aireon *offers*



Transmitting and Receiving unit—Space type. Mobile or Fixed.



Wayside Station Equipment—Inductive type.

Permanent RADIO EQUIPMENT

FOR DEMONSTRATION AND INSTALLATION

Aireon Railroad Radio has passed the experimental stage. Already in *regular* service on several railroads, Aireon Space and Inductive type Radio Equipment which can be made a part of a *permanent installation* is now available for demonstration in actual use. This equipment has been "field-tested", is ready for service and can be delivered promptly in large quantities.

Designed and engineered specifically for Railroads, Aireon radio has passed every test during more than two years of experimental experience on railroads. Aireon space equipment was the first to go into regular railroad service on the new FCC Frequencies.

Aireon sales and engineering offices in Washington, Kansas City and Chicago are prepared to make a thorough study of your railroad communications and make an immediate engineering analysis of the use of radio in your operations. These analyses will be impartial since Aireon manufactures *all* types of railroad radio equipment. Your inquiries are invited.

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Vapor-Tight

for CONSTANT, BRILLIANT VISIBILITY

NEW

EDWARDS

DOUBLE SEALED DEHYDRATED

SASH

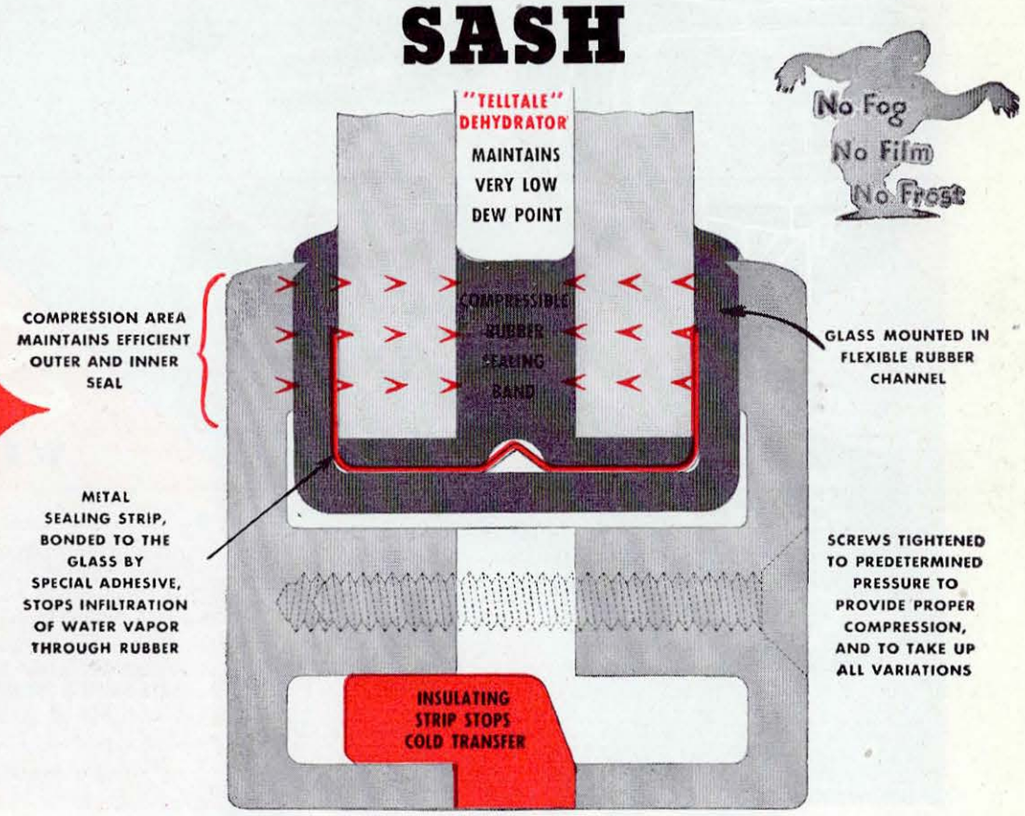
Vapor-Tight, Double Seal positively and permanently prevents BOTH mechanical leakage and water vapor infiltration into the dead air space.

Complete insulation against heat and cold transfer—no metal to metal contact.

Ruggedly built to last for the LIFE of the car without maintenance.

Adaptable for installation in any car construction—interchangeable with other double glazed units.

Competitively priced—the best "buy" on the market.


"TELLTALE" DEHYDRATOR
MAINTAINS VERY LOW DEW POINT
No Fog
No Film
No Frost
COMPRESSION AREA MAINTAINS EFFICIENT OUTER AND INNER SEAL
COMPRESSIBLE RUBBER SEALING BAND
GLASS MOUNTED IN FLEXIBLE RUBBER CHANNEL
METAL SEALING STRIP, BONDED TO THE GLASS BY SPECIAL ADHESIVE, STOPS INFILTRATION OF WATER VAPOR THROUGH RUBBER
SCREWS TIGHTENED TO PREDETERMINED PRESSURE TO PROVIDE PROPER COMPRESSION, AND TO TAKE UP ALL VARIATIONS
INSULATING STRIP STOPS COLD TRANSFER

New Edwards Vapor-Tight units are the ultimate in double glazed sash construction. Thoroughly tested and proven, they are the best designed, most ruggedly built and most efficient sash ever offered to the railroads of America. Write for complete information. O. M. Edwards Co., Inc., Syracuse, N. Y.

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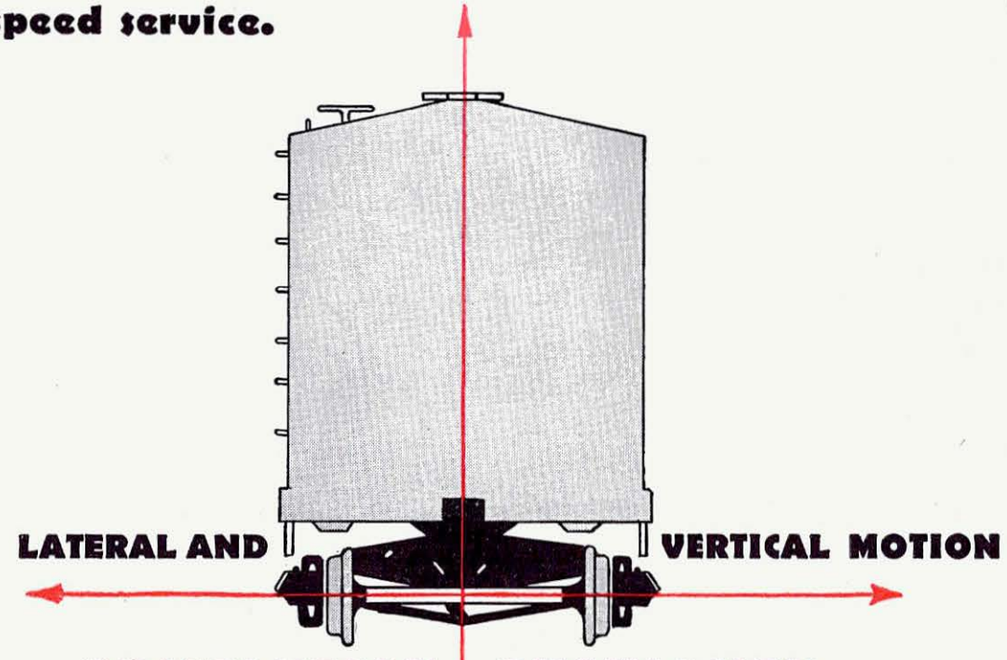
THE EYES OF TRANSPORTATION

Introducing

LATERAL-VERTICAL
SCULLIN L-V TRUCK
CUSHIONED MOTION

A new freight car truck designed to prevent lading damage and operate safely in general and high speed service.



COMPLETELY CUSHIONED
BOTH UNDER CONTROL

Watch for More News Soon!

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Vapor-Tight

for CONSTANT, BRILLIANT VISIBILITY

NEW EDWARDS

DOUBLE SEALED DEHYDRATED SASH

Vapor-Tight. Double Seal positively and permanently prevents BOTH mechanical leakage and water vapor infiltration into the dead air space.

Complete insulation against heat and cold transfer—no metal to metal contact.

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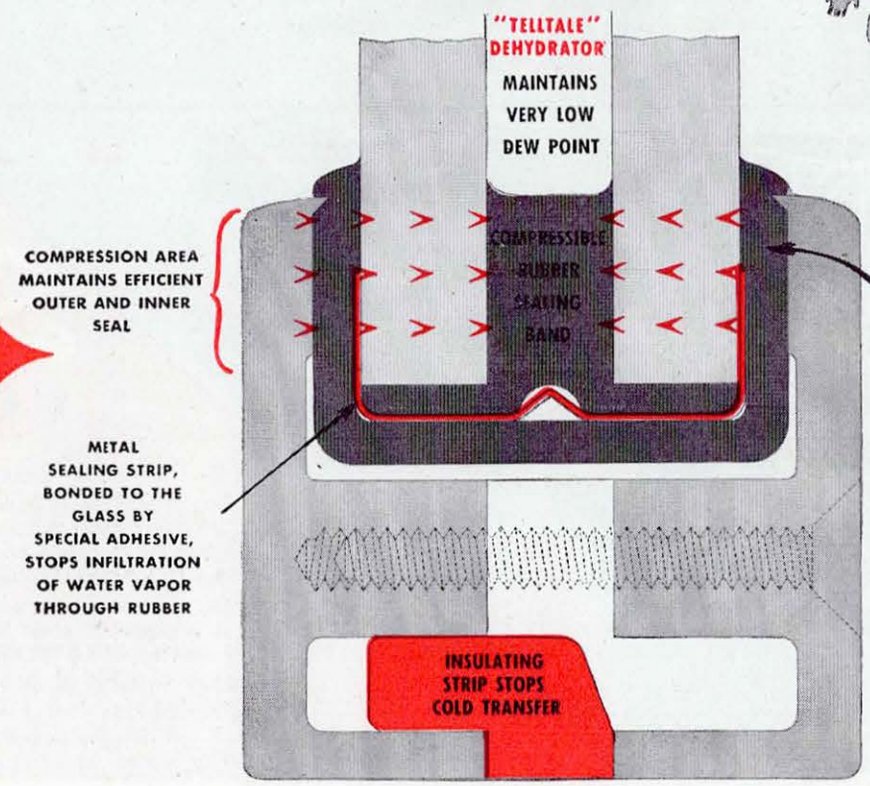
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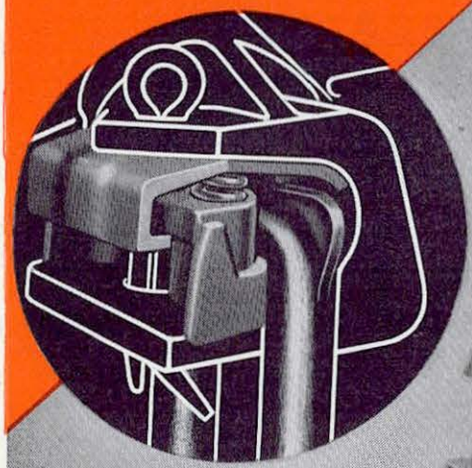

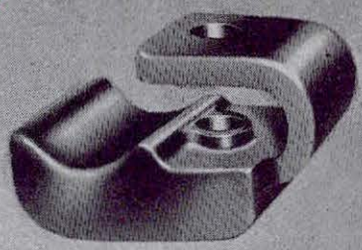

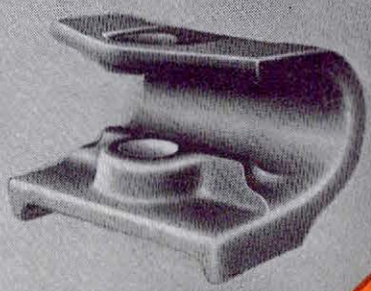

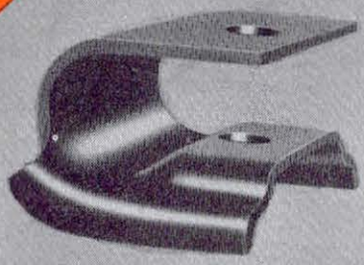

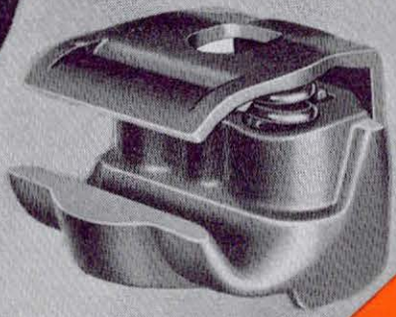

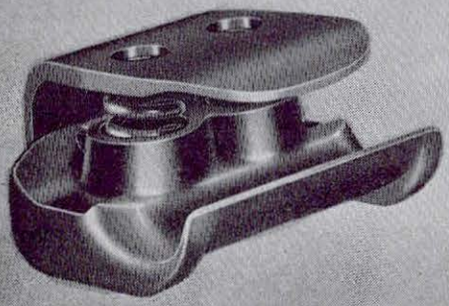

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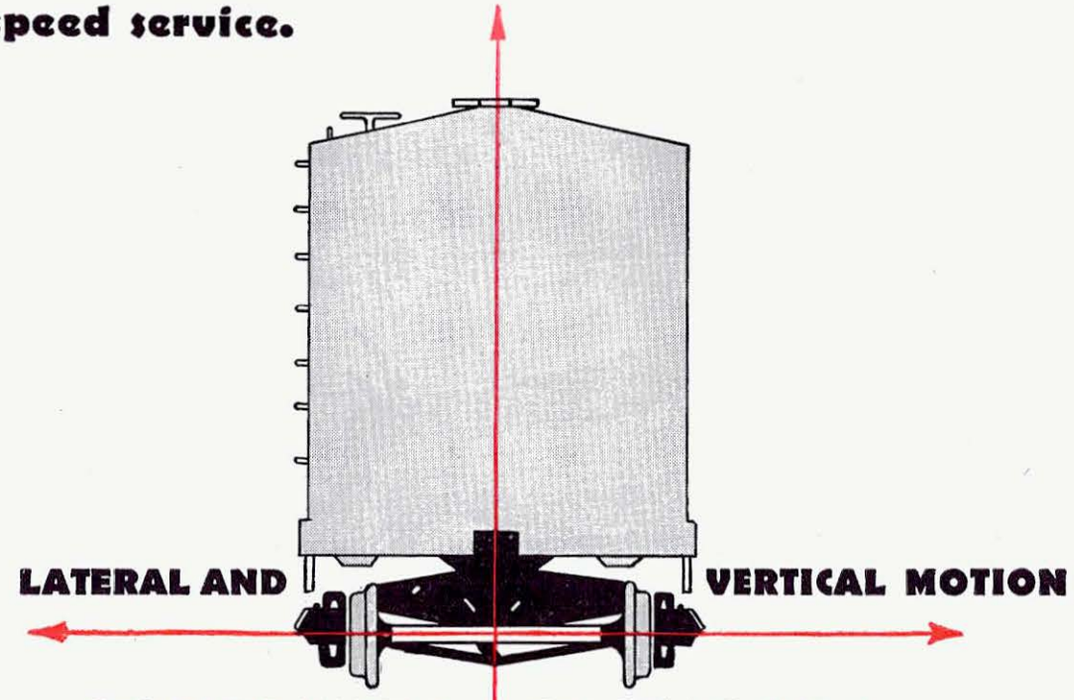

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Railway Age

With which are incorporated the Railway Review, the Railroad Gazette, and the Railway Age-Gazette. Name registered in U. S. Patent Office.

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Micro-filming Speeds Waybill Handling ***867***

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Profits More Likely If They're Shared ***873***

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The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service.

PRINTED IN U. S. A.

TEMPUS EDAX RERUM

(*Including Railroad Profits!*)

"Time, that devours all things"—Ovid was the gentleman who tossed that bit of wisdom to posterity. And, the good Roman must have been a stockholder in the Tiberian Chair and Chariot Company, for he certainly gave even modern transportation an axiom!

Each day, many opportunities to speed train movements may be recognized, but they may have to be neglected because of the Time required to accomplish change in established authority of train movement by written train orders. By the Time a change can be made in that manner, frequently the value of the opportunity cannot be realized. And there, gentlemen, go golden opportunities to cut road time, speed traffic, please patrons, and build profitable business!

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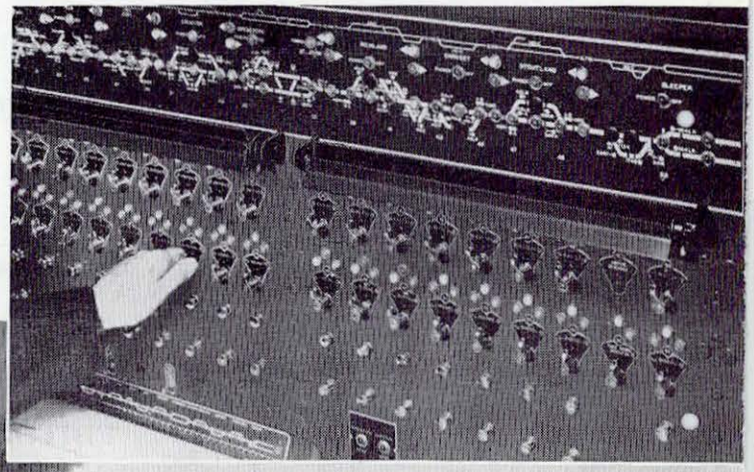

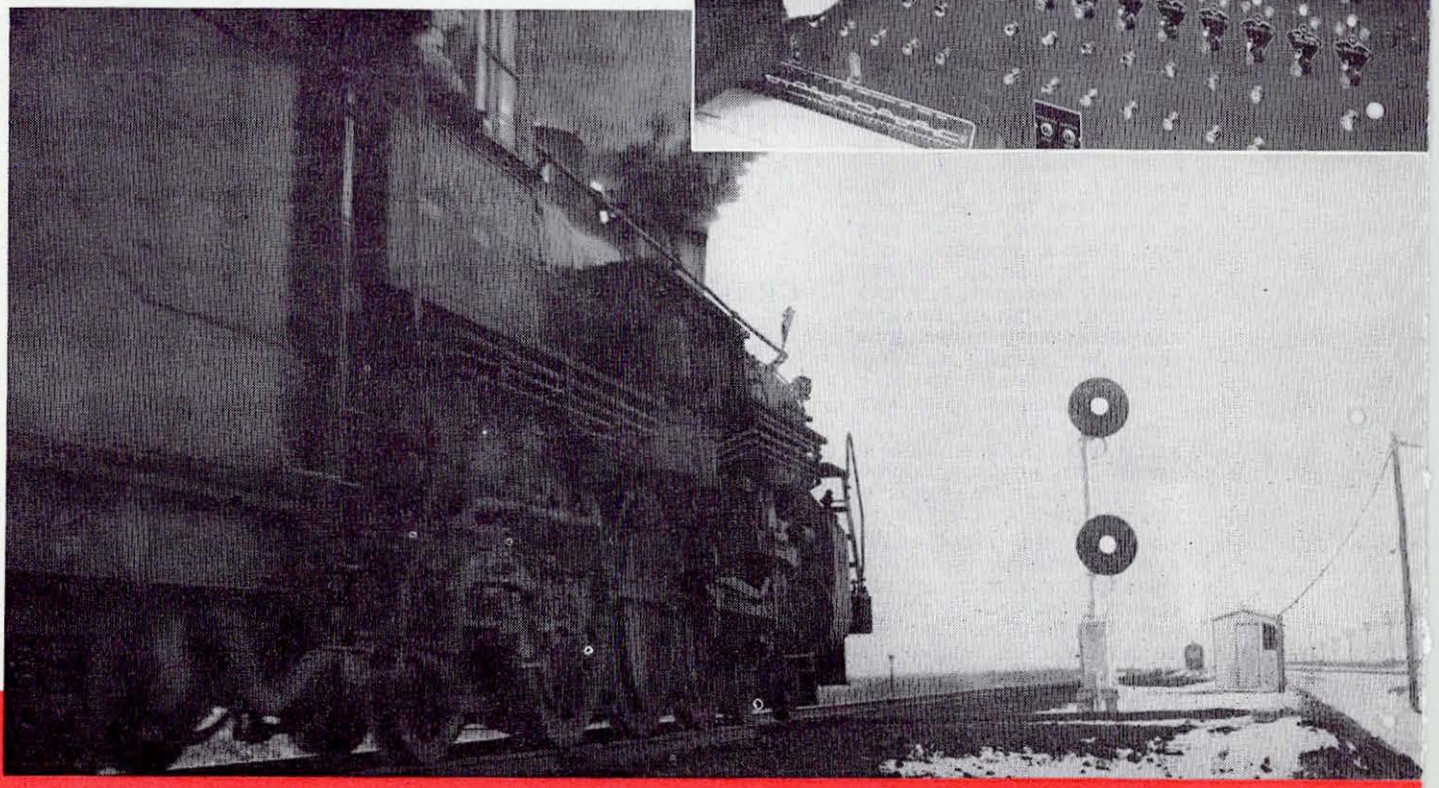

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The Week at a Glance

PRO PROFIT SHARING: Arguments for and against the idea that railroad employees ought to be partners in the business, sharing its good and ill fortunes with the equity holders, rather than occupying the relatively preferred position they have so long enjoyed, have been set forth by William Wyer, chief executive officer of the Jersey Central, in a New York Railroad Club address, the substance of which appears in this issue. Under such an arrangement, he insists, the employee would be decidedly more concerned than he has been under the orthodox system in seeing that the enterprise produces a profit, and to the extent that desirable end is achieved the stockholder would benefit too. The alternative that he fears is extinction of private enterprise in the railway industry, brought on by an irresistible —and to investors an unendurable—tendency of expenses to exceed revenues.

●

LEAVE-SIDING SIGNAL: A special arrangement of high signals and dwarfs at the ends of passing sidings which the Canadian Pacific is employing in extending its automatic block signal installations is described herein in an illustrated article. This idea has been applied to save train time and give maximum protection. The dwarf, or leave-siding, signal ordinarily displays a red aspect. When the switch is set for a train to depart from the passing track, however, the high main-track signal assumes the stop aspect and the dwarf is cut into the block circuit, showing a yellow aspect if the train ahead has cleared only the first block or green if two or more blocks have been cleared.

●

A MATTER OF TRAINING: The old saw to the effect that what he doesn't know won't hurt him certainly does not apply to the railroad employee's relation to the road he works for. As the leading editorial in this issue points out, an astonishing inadequacy in employee understanding of the state of the economic health of the industry has been brought to light by this paper's recent survey of employee opinion. The employee can't be blamed for knowing so little about that very important phase of the business, however, because it is the job of management to train him, to give him adequate and appropriate information on which an understanding of the economics of the industry can be founded. The more directly fluctuations in the health of his railroad are associated in the employee's thinking with fluctuations in the size of his pay check, the better will his education proceed.

●

FIRST THINGS FIRST: A fundamental responsibility of government is to establish and preserve elementary conditions of justice and equality, so that the individual person or enterprise may thrive and prosper according to the ability and energy and opportunity vouchsafed them. Once that fundamental responsibility is well discharged, it perhaps may be argued whether or not government ought to strive to do other things as well, but certainly government is in no good case to take on the complex task of "planning" for everybody and every industry—as is the current fashion—when events show so plainly that, generally speaking, it is doing a wretched job at its own primary function. An editorial this week relates this principle to current developments in Britain, where a vast amount of "planning" is being done in connection with the government proposal to nationalize that country's transportation, and the suggestion is made that the aggregate product of the planning of millions of independent individuals is likely to produce much more in the way of progress than can that of any agency of government.

●

REJUVENATED LOCOS: The possibility of keeping to a uniform production schedule at its locomotive shops was one of the factors leading to the decision of the North Western to carry out an extensive modernization of its Class-H engines rather than scrapping them. As explained in an illustrated article this week, various details of these locomotives showed weaknesses that resulted in excessive maintenance cost and out-of-service time. The major change, perhaps, among many is the substitution of a new nickel-steel cast bedframe with integral back cylinder heads and air reservoirs and straight frames under the firebox in place of the original "banjo" cradle design.

●

UNAPPRECIATED ZEAL: Putting what Senator Clyde Reed called "some sense" into the record, Commissioner Aitchison has reiterated the Interstate Commerce Commission's approval of the Bulwinkle bill, with suggested amendments. As noted in the news pages, the senior member of the commission did not hesitate to disagree with the Department of Justice's lawyers on the timeliness of this proposed legislation. Trust-buster Berge's urge to save his country from the consequences of the railroads' wicked "conspiracies" seems to be sadly unappreciated, in fact. The House appropriations committee, for example, recently remarked, in trimming the anti-trust division's request for funds, that while the free enterprise system must be kept free from monopolistic practices, "the division is gradually losing its perspective in this field by devoting too much personnel and effort to minutiae to the harassment of business generally."

●

BRIEFLY NOTED: Members of Military Railway Service units in the war are organizing the M. R. S. Veterans. . . . The Norfolk & Western's coach streamliner has been named the "Powhatan Arrow." . . . Senator Wheeler has introduced a bill to put all federal government shipping and transportation activities under one bureau. . . . The second assistant postmaster general wants the railroads to know that all the mail isn't going to be hauled by air for quite some time yet. . . . This is election year, and 218 members of the House have signed a petition to "unfreeze" the House committee's hold on the unions' "bigger benefits" bill.

BUSY EMERGENCY BOARDS: The recommendations of the emergency board which reviewed the demands of the engineers' and trainmen's unions for wage increases and more featherbedding are reported in the news pages. Dealing rather gingerly with the rules changes outlined by both parties, the board suggested that they find a middle ground between what it termed extreme proposals made for "trading purposes." It found some merit in a few of the union demands, such as that dealing with the "spread" in short turnaround passenger assignments and that fixing motormen's pay in multiple-unit operation, and approved in general the carriers' proposal to put a limit on the time within which grievance claims may be initiated. While the unions are making up their minds what to do about this board's decision, another board has been set up to consider the pay increase demands of Railway Express Agency employees.

●

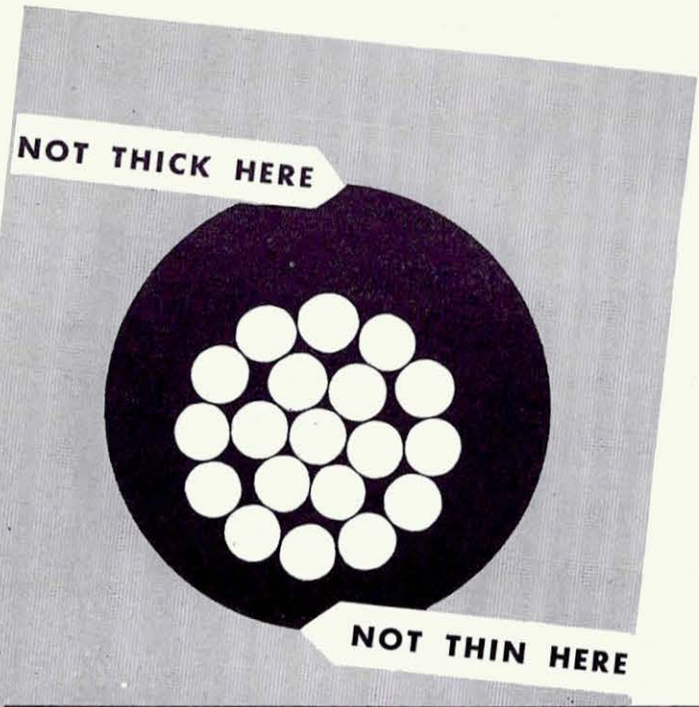
FASTER WAYBILL HANDLING: From 35 to 60 times as many waybills can be copied—and with absolute accuracy—with the Recordak micro-filming process used by the Rock Island, per given unit of time, as a clerk can copy in the time-honored way. The feature article in this issue describing the machines and the procedure for handling waybills and films also gives data on the cost of operation and practical advantages of this process. This road, as the article also points out, has applied micro-photography to many other situations where more efficient techniques are required under today's conditions.

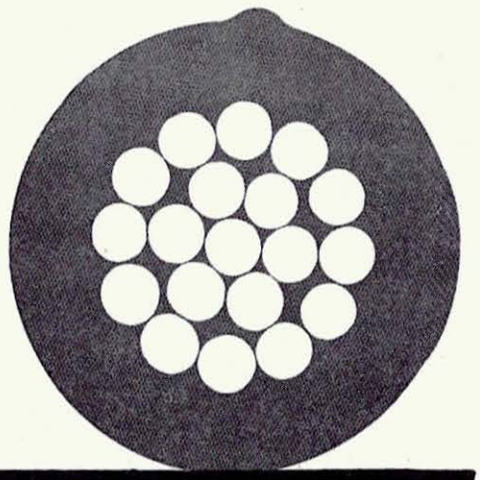
●

MODERN ICING STATION: One of the largest car-icing stations in the country, set up to ice a train of 100 refrigerator cars at one time, is the Missouri Pacific's Dupo, Ill., plant, described herein. Some 70,000 cars are iced here annually, with peak operations at a substantially higher rate. Time saved in reicing cars is, therefore, an important factor in obtaining generally more efficient performance in handling this important perishable traffic. Mechanized operation and a carefully studied layout contribute to the efficient functioning of the installation, while the extensive use of treated timber minimizes upkeep costs.

●

NO EMILY POSTS: The Rock Island is telling its employees that the amount of business it does—and the amount of employment it can provide—after the first flush of post-war prosperity has been spent, is going to depend to a very considerable degree on what sort of impression its customers have of its service and its desire to cooperate in meeting their needs. The time to make sure that impression is favorable is now, it says, but that does not mean that every employee has to be a Little Lord Fauntleroy. It does mean that intelligence and good manners can be made to pay dividends both to the road and to the men who work for it. Some excerpts from the illustrated booklet carrying this message appear in the news pages.





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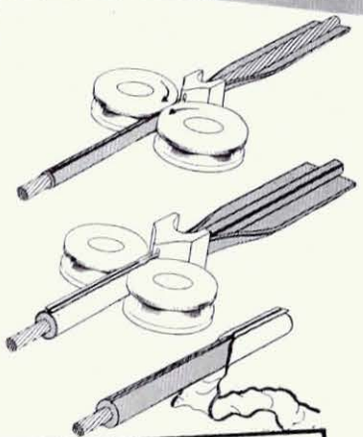

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5. Greater density, uniformity and higher electrical values through vulcanization in a continuous metal mold.

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The final strip is backed by sheet tin, and when applied forms a continuous metal mold for vulcanizing. In this mold, heat is transmitted evenly through the entire length of the cable, so that every foot receives the same "cure". When the mold is removed, there remains a wall of dense, homogeneous Okonite rubber insulation that is uniform in thickness throughout.

Bulletin 101 gives you further information on the rubber used in Okonite insulation and the method of applying it. Write for a copy. The Okonite Company, Passaic, N. J.

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4489

RAILWAY AGE

Why Not Tell Them Why They Are Laid Off?

The survey of railway employee opinion reported in these pages in our March 2 and 23 issues has provoked some astonishment and drawn attention to the dangerous lack of information—and the prevalence of misinformation—on the part of railway employees regarding the economic position of the industry on which they depend for a livelihood. It will be recalled that this survey showed that employees on the average believe the railroad business to be highly profitable, and that they have no conception of the injury done it by governmental aid to rival agencies of transportation. A further inadequacy in employees' understanding of the factors necessary to a thriving and progressive industry was revealed in their approval of train limit and "full crew" requirements.

Ignorance the Most Serious Threat

There is no other threat to the railways' future more serious and immediate than such ignorance on the part of their employees. On the cost side of railway operations—the level of railroad wages is largely determined by railway employees themselves, through the exercise of their organized political power. They cannot very well be expected to restrain their demands to a level which will permit the railroads to continue their existence as private property as long as the general impression prevails that the return on investment in the railroads was 27 per cent in a year when, actually, it was only a little more than 4 per cent. On the revenue side —the degree of government-aided competition against the railroads and the level of railway rates are, largely, the product of public opinion. Here again adequate and accurate information by employees is of transcendent importance, because the general public cannot be expected to have knowledge of transportation economics in higher degree than that of employees, who are the principal source of the railways' contacts with the public and with public officials.

The employees cannot be blamed for the inadequacy and inaccuracy of their information, because the selection and training of employees is a responsibility of management. For some years there has been a growing recognition by management of the need to get more economic information into the hands of employees, as is evidenced by the increasing number of company reports prepared especially for employees. It should be clear, however, that such provision of over-all company information in the form of annual or even monthly reports is only the initial step in the job that needs doing. Expenditures by the federal government concern every citizen and the figures are easily available, but how many citizens are familiar with them? It will take more than just making known the figures on railroad earnings and expenses to induce the average employee to realize what these figures mean in terms of his own well-being.

While providing employees with information on a railroad's operations as a whole is a definite forward step, effective information which the employee will quickly understand is another matter. Such reports would be those which reflect the surroundings of the employee in his job. For example, in recent weeks many thousands of employees have had to be temporarily furloughed—because of lack of materials (arising from strikes in other industries); because of the shutdown in the coal mines; and because wage increases have forced the railroads to divide a limited sum of money among fewer men. How many employees who have been laid off for these or other reasons have been given a simple dollar-and-cents explanation of the causes which have led to their misfortune; and how many have been told what dollars-and-cents conditions will have to be met before they can be called back to work? There are many employees who would absorb information of this kind with intelligent interest but who could probably never be initiated into a study of transportation economics by means of the company's annual report, however attractively it is printed.

Statistics Can Be Personalized

The average railway employee does not understand the economics of the industry because he is seldom if ever shown the necessary connection between the work he does and the size of the pay check he receives. If the employee is a trainman, for example, he does not get figures on the earnings and expenses of the trains he handles—hence, he does not have the information which would easily lead him to understand that a "full crew" on his run might make it necessary to pull off the schedule entirely. Nobody has taken the trouble to explain to him, in dollars and cents, how, if the trains now run on his division were reduced to the length prevailing in 1910, with present freight rates, there would probably not be any money left with which to pay train crews, after other necessary expenses had been met.

There is an economic cause, known to railway management, for practically every man-hour of work done on the railroads, and there is a direct connection between what the employee does (or is prevented from

doing by regulation or competition or union rules) and the amount of his pay check. Much of this information can be given the employees in terms which they not only can understand but will readily absorb because it has such a tangible relationship to their own immediate welfare.

The movement toward wider distribution of more readily intelligible annual reports is certainly a praiseworthy step forward in the economic education of employees, but it can scarcely be doubted that current information on everyday developments immediately and tangibly affecting their interests would be even more effective in awakening their understanding. The normal direction of learning is from the particular to the general and from the specific to the abstract—not the reverse.

Bricks without Straw

The American Refrigerator Transit Company has been forced to lay off 200 of its car repair mechanics, at a time when refrigerator cars are vitally needed for the transportation of the nation's foodstuffs. The letter written to employees by O. M. Stevens, president and general manager of the A. R. T., explains the situation in language which makes superfluous any additional comment. His letter reads:

"There are not enough refrigerator cars in all the United States to move the foodstuffs urgently required by the people of our country. It is vitally important to the country that every A. R. T. car be repaired promptly and kept in service continuously to move fruits, vegetables, meat and other foods. The A. R. T. wants to keep every man on its payrolls at work repairing refrigerator cars. As a matter of fact, the company would like to make *more* jobs for *more* men, repairing old cars and building new cars.

"But the company cannot obtain the material it needs. Lumber mills simply cannot sell siding and other lumber needed for car repair work, at the ceiling prices dictated by O. P. A. under government price control. Without material with which to work, it is impossible to make more jobs or even to keep the jobs we have. Therefore, the company has no choice but to lay men off.

"The company does not want to lay men off. It wants to hire more men. It has work to do—work of vital importance to all our people, but government control of prices makes it impossible for the company to do the work. You can look around our shops and see for yourself how short we are of car repair material. I assure you the company has made every effort to buy material —we have even borrowed material to keep going.

"Now we are at the end of our string. Under government price control we cannot get material to operate. We have no choice but to lay off our men—thus gradually closing shops which should be working at full capacity. As president of this company, I regret this action more than I can tell you, but I am powerless to avoid it. The responsibility rests with our government and its policy of attempting to control prices."

A copy of this letter was mailed to Chester Bowles, stabilization director, and to Paul S. Porter, national administrator of the O. P. A.

Blind Faith in Government Planning

While socialization of the railways and highway transportation is a principal item on the program of the Labor government of Great Britain, the dominant political party is not going to proceed with this course without debate. The government's position is that it is up to those who oppose socialization to show that the national interest will be better served if the carriers remain in private ownership. The railways' case against socialization is summarized for them by the "Economist" (London) as follows:

". . . the railways before the war were efficient, within the limitations imposed upon the companies by the Railways Act of 1921; these handicaps enabled road haulers to compete 'unfairly' with the railways; they exhausted themselves in the service of the country during the war, drawing without stint upon the improved facilities which their careful pre-war husbandry had fortunately enabled them to introduce; but for the war, the 'Square Deal' proposals would have been on the statute book; and co-ordination of transport is practicable within a framework of private ownership, without recourse to nationalization."

The "Economist" goes on to say that the railways and the truck operators are working on plans which will likely achieve as much "co-ordination" of their services as would be secured under government ownership and operation. As to the railways' "square deal" program (which had called for equality of regulation of both railways and highway transportation) the "Economist" asserts, without offering any supporting evidence, that this project really had in mind the raising of truck rates to the level of railway rates as a minimum.

The "Economist" expresses the opinion that there is a *prima facie* case for the assumption that considerable economy in the country's transportation costs could be effected if the railways were to abandon all their local stations and services to the trucks, with the trucks withdrawing from long-haul operations. On the other hand, it warns (1) that such a move would leave shippers with no freedom of choice; (2) that, possibly, for military reasons the country ought to have some duplicate and excess transport capacity; and (3) that the presumptive economy in such an extreme degree of coordination has not been conclusively proved because "nobody with access to the facts has inquired." The "Economist" concludes that—

". . . nationalization as the conclusion of an investigation of where the public interest lies would be a very different thing from nationalization as the starting point of a purely political assertion of theological infallibility. The right course is to make the investigation, and for all concerned to abide by its results. And until such an investigation is made, the impartial observer will be tempted to look with a very jaundiced eye on any nationalization schemes which impose the crushing superstructure of bureaucratic centralization without a clear and convincing demonstration of what the public interest is to get in return."

Our British brethren—those who are half convinced as well as those heartily favoring transport nationalization—appear to be suffering acutely from a malady that is unhappily also widely prevalent on this side of the Atlantic; namely, the conviction that an ideal solution to a highly complex economic problem can quite likely be found if only sufficient investigation and centralized "planning" are applied to it. It does not seem to occur to people with this incurable faith in coercive "rationali-

zation" that a more hopeful alternative might lie in having the government try the experiment of limiting its functions to the preservation of justice—establishing exactly the same basis of self-support, regulation and taxation for both railways and trucks—and let the natural operation of economic forces determine the issue.

If government would but restrain itself to the vigorous performance of the duty, uniquely its own, of enforcing fair-dealing, the minds and energies of millions of Britons or Americans could scarcely fail to produce far more in the way of economic transport development than could possibly be expected if all the planning is entrusted to a half-dozen master-minds functioning either in Whitehall or in Washington. Where would the transport or other economic services of either Britain or America be today if, in 1800, all such development had been entrusted to the iron-clad rule of a bureaucracy? Probably neither the railroad nor the automobile would ever have been suffered to come into existence and even horse-hauled canal transportation could not have gone very far.

In these pages a few weeks ago there was outlined the history of the Pennsylvania Railroad, a gigantic transportation enterprise which was developed wholly by individual enterprise with no assistance from government except police protection and reasonable freedom from interference by it in the company's legitimate actions. And the essential features of the story of the Pennsylvania could be repeated a thousand times in describing the parallel development of other railroads. Two heads are always better than one and the product of millions of individual "plans," left free to coalesce, is bound to be infinitely richer than that which could possibly issue from one central planning body, however expert it might be.

It is folly to give serious attention to a man who tries to tell other people how their work should be done while he leaves his own job in sad neglect. When government has established among the several agencies of transport elementary conditions of justice and equality—which is government's primary function, and a job which no agency but government can do—then, maybe, its ideas on achieving greater economy in transportation should have a hearing. But let's not expect a man to design and build a successful 6,000-hp. locomotive who doesn't even know when the family jallopy needs a change of oil or a battery recharge.

Just What Do Figures Really Mean?

Since the day the first Diesel locomotive took its place in railroad service, there has been a continual controversy over the relative operating cost of Diesel and steam power. The rather meager cost statistics that were available in the early days of Diesel operation did not in any sense reflect a true picture of either steam or Diesel performance. In the experimental stage, the initial cost of the Diesel equipment naturally included some engineering development work. The mileage operated was low as compared to steam and these factors, with many others, contributed to a distortion of the relative costs.

It seems that every time an article is published in which comparative costs are given, or a committee prepares a report in which such costs appear, the publication is hardly out of the wrapper in the executive offices of our railroads before a mechanical or operating man is invited into the front office and asked, "How do these figures compare with ours?" or "Why aren't we doing as well as this?" Of course, in those cases where the published figures are obviously not as favorable as the current statistics of the individual road in question, the man in the front office rarely ever bothers to bring the matter up at all.

Instances such as this have come to our attention so often and have, on so many occasions, been so embarrassing to some of our friends out on the line that we have almost been tempted to delete cost figures from articles unless they could be documented to such an extent as to leave no doubt of the specific conditions under which they originated. Unfortunately, in the long run, statistical data of this kind are of too great value to be ignored, even if we have to take them where and when we can find them, sometimes without as complete documentation as we would like.

From now on there will appear more and more data comparing the performance and operating cost of motive power. It may, therefore, be worthwhile, again, to lay emphasis on what every railroad man knows—that comparative operating and cost figures, unless related to specific conditions, are of little value except as indicators of trends.

Tell the People!

Whatever faults our business system has, its worst fault is that it is not understood. Everything shows that the rank and file want to be fair to business.

For example, a recent poll shows that the man on the street believes the average profit of automobile manufacturing companies is 24 per cent. That makes him sore. He thinks that is too much—that it is unfair. But here is the pay-off. The same man on the street was asked a second question: What do you think a fair profit would be? The average answer was 12 per cent.

In short, the man on the street considers fair a profit greater than the automobile companies actually make! But because he *thinks* they make an unfair profit, he has a grouch.

Whose fault is this? It is not the fault of the man on the street.

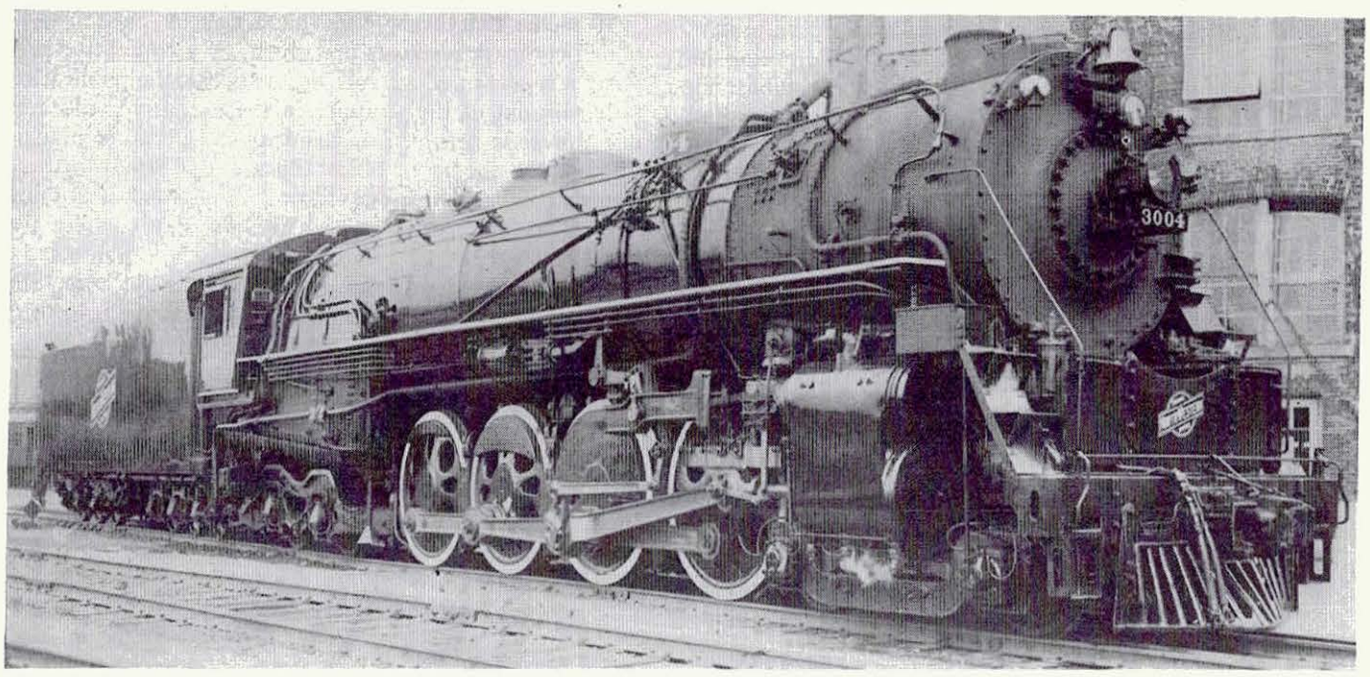
Here is more proof. The *Railway Age* took a similar poll of railway employees themselves. Fifty-three per cent (or more than a majority) of the railway men who had any opinion on the subject thought that the railroads made from 25 per cent to 75 per cent on their investment in the recent wartime year of 1944. The fact is, the profits of all railroads combined that year were a tiny fraction over 4 per cent.

And here is the pay-off a second time. Ninety per cent of railway workers having an opinion on the subject thought the railroads should be allowed a greater profit than they are actually making!

Whose fault is it that the railway workers are so wrong on the facts?

The managers and investors in American business should "think on these things," as St. Paul phrased it. For whatsoever things are *true*, and *honest*, and *just*, or of good report, will be honored by the man on the street.

—*Samuel B. Pettengill*



Ready for service after improvements and a thorough overhaul

North Western Class-H Locomotives Are Being Modernized

Plans call for extensive reconstruction of 35 steam locomotives to reduce maintenance costs and delays, and give increased availability for revenue service

As described in a recent news item in the *Railway Age,* the Chicago & North Western turned out of its Chicago shops and christened with appropriate ceremonies on April 1 Locomotive 3004, the first of 35 Class-H steam locomotives which this road plans to overhaul thoroughly and modernize in company shops so they will be practically the equivalent of new power and well adapted to meet modern heavy, high-speed passenger or freight service requirements. Improvements have been authorized for the first 20 of these locomotives which are expected to be put through the shop at the rate of about one a month, once the regular routine of operations is established and materials become readily available.

The original Class-H locomotives, built for the North Western by the Baldwin Locomotive Works in 1929, were a heavy 4-8-4 type with 275 lb. boiler pressure, 27-in. by 32-in. cylinders, 76-in. driving wheels, 288,000 lb. weight on drivers and developing 84,200 lb. tractive force, including 12,400 lb. available with the Franklin booster cut in. They were equipped with Commonwealth bedframes and water-bottom tender frames, Type-E superheater, Worthington Type-S feedwater heater, and three Thermic syphons, two in the firebox and one in the 5-ft. combustion chamber. The tender was designed to carry 18,000 gal. of water and 20 tons of coal.

Cast steel bedframes for the Class-H locomotives were among the first cast to this large size and, being made 17 years ago, did not include the refinements of design and overall strength now being secured with improved foundry practice and high-tensile alloy steels. As a consequence, these original bedframes were subject to breakage, especially at the expanded cradle frame under the firebox, which sometimes failed even under relatively light shocks. Other details of the locomotive showed weaknesses and caused excessive maintenance cost and out-of-service time at repair shops and enginehouses, with attendant serious loss of service mileage.

The management of the North Western was faced with three alternatives, namely: to continue to repair these locomotives in kind, to scrap them and purchase new motive power, or to institute an extensive reconstruction program whereby weaknesses in either materials or design would be eliminated so far as possible and the locomotives thoroughly modernized. The last alternative was chosen and among other important factors in this decision was the possibility it afforded of maintaining a more uniform force and production schedule at the Chicago locomotive shops of the C. & N. W. during the period of the reconstruction program.

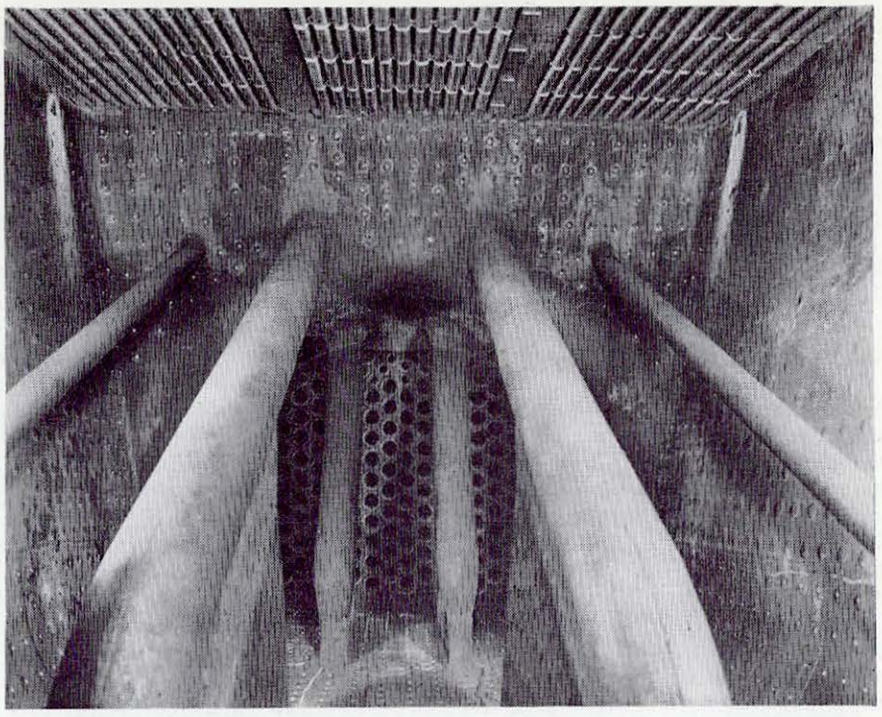
Principal Improvements

With no change in steam pressure, cylinder size, or booster capacity, the tractive force of the improved Class-H locomotive, now known as the Class H-1, is unchanged. Certain alterations in boiler details, however, and especially

the enlargement and streamlining of steam and exhaust passages, the use of a larger exhaust nozzle, and steam ports increased from 1⅞ in. to 2¼ in. are expected to give a definite increase in horsepower capacity at high speeds. The flexibility of operation and riding qualities of the H-1 locomotive are also definitely improved.

Some Component Parts

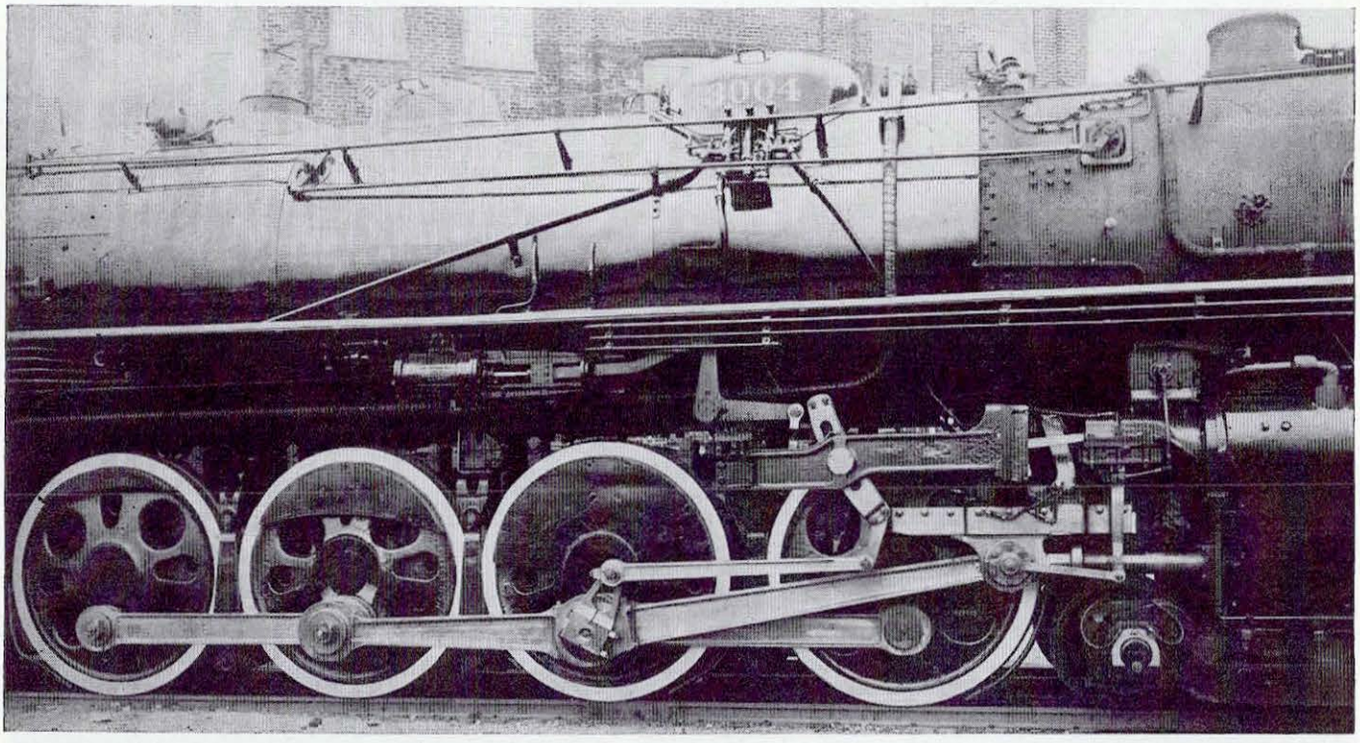
In addition to the new General Steel Castings Corporation nickel-steel cast bedframe with integral back cylinder heads and air reservoirs and straight frames under the firebox instead of the former "banjo" cradle design, major improvements to the locomotive include the application of Timken roller-bearings to all axles; Boxpok driving wheels, cross balanced for speeds of 90 miles an hour on 110-lb. rail; Baldwin nickel-steel rods and multiple-bearing crossheads; larger boiler tubes and flues and superheater units; American multiple throttle and superheater header; an additional Thermic syphon in the combustion chamber; Hulson tuyere-type grates; improved front-end design and cab support.



Hulson grates, and Thermic syphons in the firebox and combustion chamber

Westinghouse air brake equipment is installed, with the foundation brake system divided into two separate units; one set of cylinders operating on the front two pairs of drivers and the other on the rear two pairs. Spring rigging of new design involves the use of Ex-Cell-O pins and bushings with increased bearing area which will not only give longer service life but facilitate renewing the pins and bushings when this becomes necessary. Franklin automatic compensators and snubbers are designed to take up lost motion between the roller-bearing housings and frame pedestal jaws, thus preventing the development of driving-box pound and wear due to this cause. McGill needle roller bearings are used in valve-motion parts including the link trunnions, lifter links, both ends of the radius bars, front ends of the eccentric rods and lower ends of the combination levers.

Force-feed lubrication is supplied to all roller-bearing housings and pedestal openings, frame shoes, trailer-truck and engine-truck center plates, link trunnions, main and valve crosshead guides,



Improvements include wheels, rods, valve gear and guides

Franklin floating block between locomotive and tender, and boiler bearings and expansion pads. The provision of ample lubrication for all wearing surfaces, coupled with extensive use of roller bearings is expected to minimize necessary terminal attention and permit operating Class H-1 locomotives for long periods without major repairs, which will be much easier and less expensive to make than with the earlier design.

Boiler Changes

Changes in the Class H-1 boiler include the application of a new all-welded firebox with two Thermic syphons of improved design in the firebox proper and two in the combustion chamber. The back flue sheet has a knuckle radius of 1½ in. and is designed for the installation of boiler tubes enlarged from 2 in. to 2¼ in., flues being increased from 3½ in. to 4 in. The Type-E superheater units also are increased in size from 1 in. to 1⅜ in. and connected to a new American combination header and multiple throttle in the front end. The smokebox design has been simplified and improved in certain particulars to give more uniform gas travel and help produce adequate draft with reduced back pressure.

The 8⅜-in. conventional circular exhaust nozzle with five splitters on Locomotive 3004 has a net area of 32 sq. in. Hulson annular-ported exhaust nozzles will be used on subsequent Class H-1 Locomotives.

Two waist sheets in the original locomotive have been removed and replaced by a single bearing on a bedframe extension under the barrel of the boiler. The back end of the boiler is supported on four lubricated expansion pads cast integral with the rear bedframe. The cab is supported entirely from the boiler, so that the cab and all pipes move with it.

Side boiler checks on the original locomotive are replaced by a single Sellers duplex check valve just ahead of the sand dome on the top center line of the boiler. Ash pan swipes, connected to the Wilson blow-off cock at each back corner of the ash pan, consist of a pipe extending along each side of the ash pan, capped at the forward end and having a number of short flattened-pipe nozzles directed down the ash-pan slope sheets so that these sheets can be readily cleared of ashes when desired by opening the rear blow-off cocks for a short period. An ash-pan thawing device is operated from a 1½-in. valve tapped into the water space on the back boiler head.

Other Improvements

Numerous other improvements are included in the Class H-1 locomotive design. For example, lightweight electric-steel pistons are used, having Locomotive Finished Materials Company lip-type packing. The manganese-vanadium-steel multiple-bearing crossheads operate in guides supported entirely by frame brackets with no connection to the front cylinder. The high-strength nickel-steel rods, supplied by the Baldwin Locomotive Works, include tandem main rods and floating bushings, lubricated through the hollow crank pins. The eccentric cranks and rods are also of special lightweight design. Pedestal toes and binders are redesigned for greater strength and interchangeability. The drawbars are bushed to give greater service life and ease of repairs.

Wearing surfaces on the valve-gear links and link blocks are flame hardened. The steel valve crosshead guides are bronzed lined. Steel and phospor-bronze frame shoes of special design are used on the straight pedestal faces. S. A. E. standard threads are used on all valve-gear parts and eccentric-crank bolts in order to permit finer adjustment of bolt and nut tension and still permit inserting split pins without the necessity of backing off the nut.

The controlled lateral-motion device which permitted 2 in. of lateral has been removed from the front driving wheels and ½ in. of free lateral substituted. The front locomotive truck has been rebuilt with 20 per cent resistance rockers instead of 30 per cent. The front pilot beam is another detail part cast integral with the bedframe.

All pipes, insofar as practicable, have been welded to eliminate joints and attendant possibility of leakage. A limited number of pipe couplings are used to permit taking off long sections of pipe as a unit in case of lagging removal or extensive general repairs. Vapor cooling coils for compressed air are of the fin-type which effects a substantial decrease in the necessary length of radiation pipe and contributes to a neat appearance and good lines on the side of the locomotive. Graham-White sanders used on this locomotive are equipped with Type-E valves for cleaning the sanders automatically.

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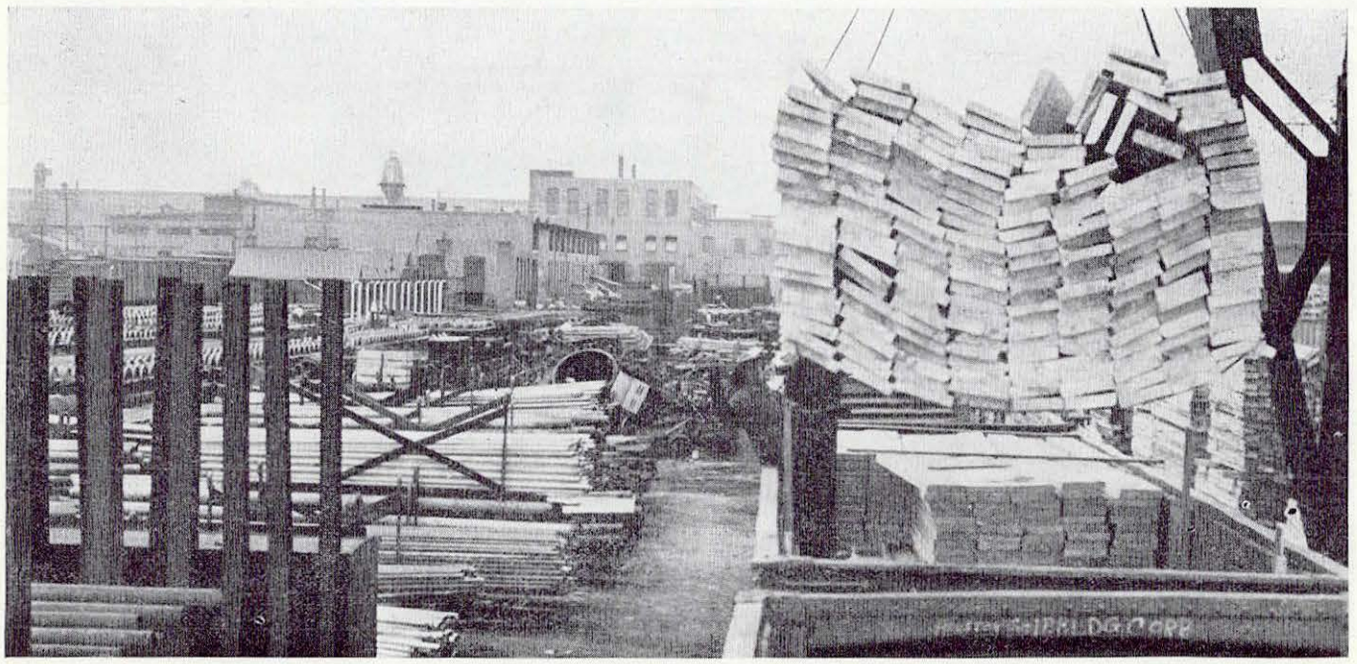


Unloading materials on the Missouri Pacific at Little Rock, Ark.

Big Signal Program on Canadian Pacific

Construction on three complete subdivisions in three years proves benefits in safety and reduced train delays — special layouts at sidings save train stops

THE Canadian Pacific, Eastern Lines, has an extensive program of automatic block signal construction on important through routes, the projects being in units of complete subdivisions, so that the benefits of improved safety and savings in train time are readily evident. A project, completed in 1944, included the White River and the Heron Bay subdivisions, totaling 250 miles between Chapleau, Ont., and Schreiber, Ont., this being on the principal route to Fort William, Winnipeg and the Pacific Coast. In 1945, signaling was installed on 110 miles between London, Ont., and Windsor, thus completing this form of protection on the entire 563-mile route between Montreal and the Detroit gateway.

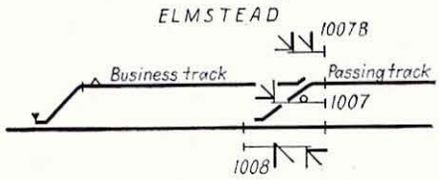
The 1946 program includes signaling for the 115 miles between Smith Falls, Ont., and Chalk River on the route between Montreal and the Pacific Coast, and 30 miles in Maine on the Moosehead subdivision. With the completion of these projects automatic block signaling on the Canadian Pacific, Eastern Lines, will total 1,365 miles of road, including 1,621 miles of track, as indicated on the map.

As shown on the map, the railroad, from Montreal west through North Bay, is joined at Sudbury with a connection from Toronto. Thus traffic to and from Montreal and points east, as well as to and from Toronto and southern Ontario, all converge at Sudbury. Double track extends from Sudbury to Cartier, 34 miles. All the traffic in both directions is handled over single track west from Cartier to Fort William, 518 miles, and, from the standpoint of safety, the automatic signaling was needed most on the two subdivisions between Chapleau and Schreiber, not only because there are scheduled meets between passenger trains in this territory, but also because numerous curves, hills, rock cliffs and tunnels result in short sighting distances.

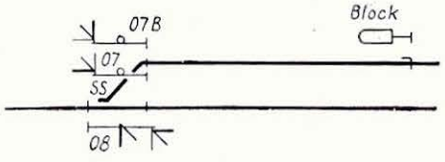
Physical Characteristics

Between Chapleau and Heron Bay, 185 miles, the railroad cuts across country which is glacial formation. Between Heron Bay and Schreiber, 65 miles, the railroad in general follows along the north shore of Lake Superior, passing through rough glacial formation, most of which is barren rock. The grades are rolling. Between Chapleau and White River the eastbound ruling grade is a maximum of 1.0 per cent for 4.5 miles, and the westbound grade is 1.6 per cent for 4.2 miles. Between White River and Schreiber the westbound ruling grade is 1.1 per cent for 3 miles, and eastbound is 1.3 per cent for 3 miles. The curves are very numerous, to the extent that sections of tangent more than a mile long are rare. The maximum curvature is 8.0 deg., but for the most part the curvature does not exceed 6 deg.

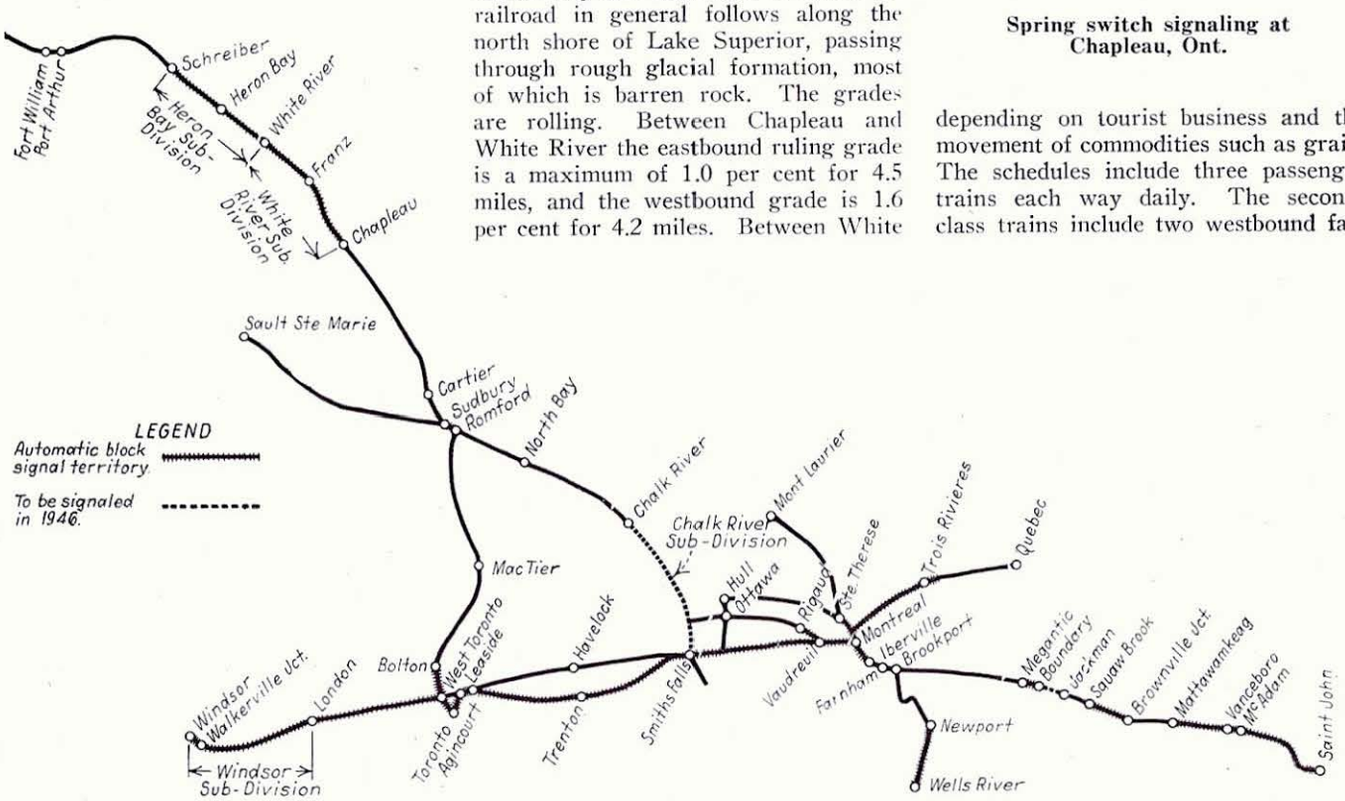
The traffic varies at different seasons depending on tourist business and the movement of commodities such as grain. The schedules include three passenger trains each way daily. The second-class trains include two westbound fast



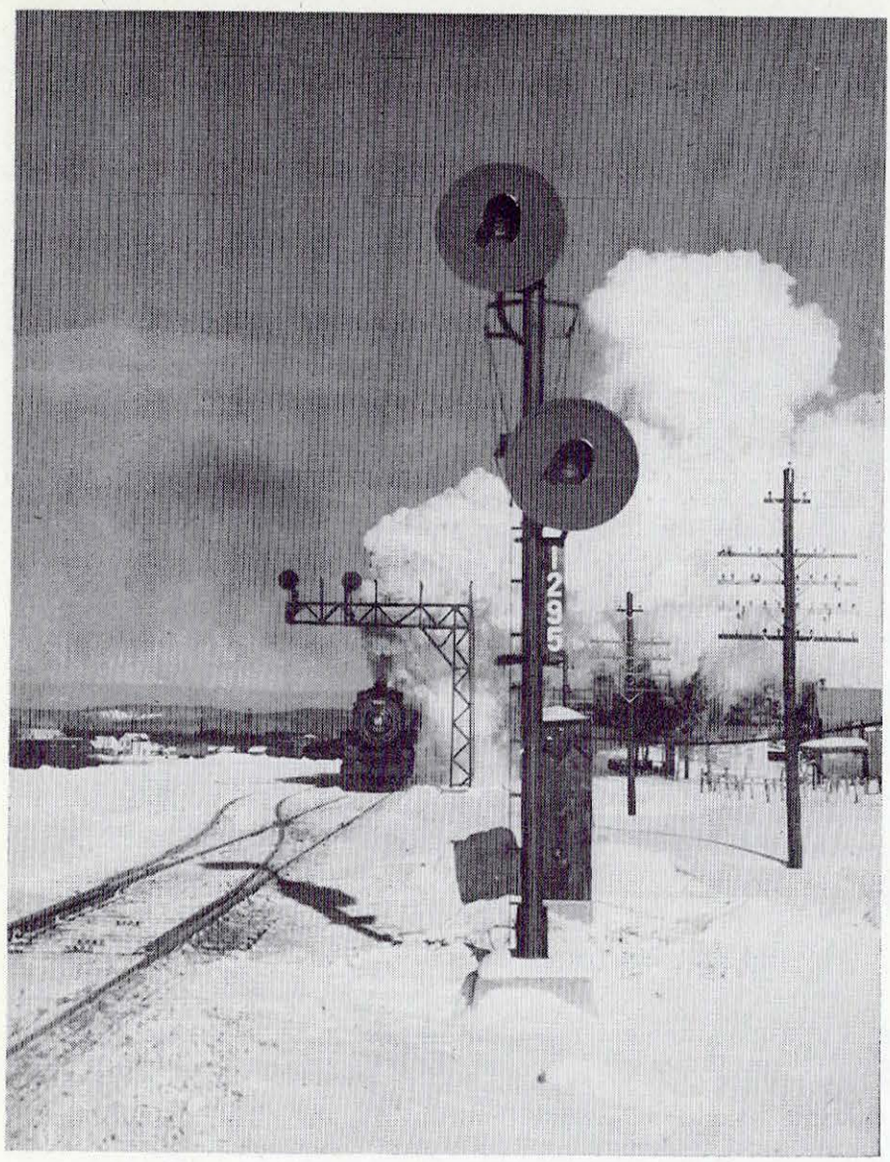
Special dwarf signal on business track



Spring switch signaling at Chapleau, Ont.



Map showing signaled territories on Canadian Pacific, lines east



Westward signal at the east end of the yard at White River, Ont.

freight trains and an eastbound stock train daily. Other eastbound freight trains are handled as fourth-class trains, the schedules including five such trains daily. Thus the schedules list six passenger trains and eight freight trains daily, totaling 14 trains, but the traffic during recent years required extra trains, so that as many as 28 to 32 trains have been operated daily.

In 1945 automatic signaling was installed on the 110-mile Windsor subdivision between London, Ont., and Windsor. In this territory the grade is practically level and the track is tangent for long distances, as for example 31 miles between Tilbury and Lake Shore Tower near Windsor. Regardless of these favorable conditions the signaling was needed because the sighting distances are short during fogs which occur frequently and, furthermore, the traffic on this subdivision is heavy, and the trains are operated at higher speeds than in rough territories. The maximum permissible speed for passenger trains is 90 m. p. h. and for freights 45 m. p. h. The schedules include three eastbound and four westbound passenger trains daily, three eastbound and three westbound second-class fast freights, and three eastbound fourth-class freights, thus totaling 16 trains daily. Including extra trains the total varies from 24 to 30 trains daily.

On the Chalk River subdivision between Smith Falls and Chalk River the railroad traverses rolling farm country with numerous short grades ranging up to 1 per cent, the ruling grade being 0.74 per cent eastward and 0.60 per cent westward. The curves are fairly numerous and range up to a maximum of 7 deg. 45 min. The maximum permissible speeds are 90 m. p. h. on tangent for passenger trains and 45 m. p. h. for freight trains. The schedules include 12 passenger trains and 6 freight trains daily, with several extra trains, so that the total ranges from 30 to 32 trains daily.

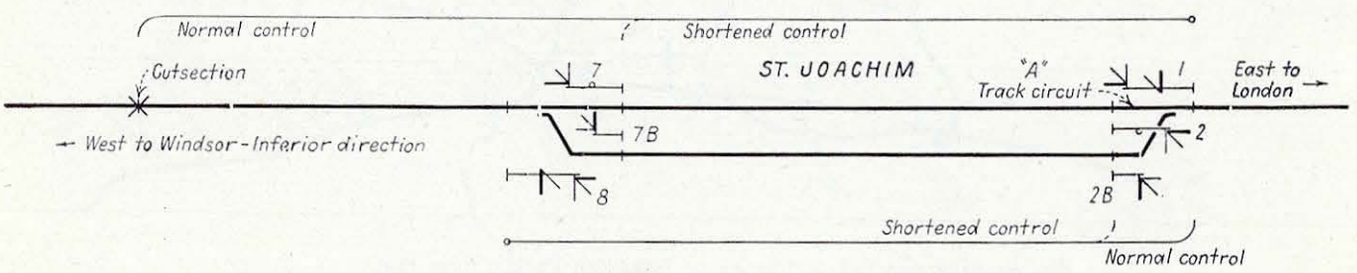
Passing Track Facilities

On all of the five subdivisions being discussed, the tonnage handled by freight trains varies, depending on traffic volume, rating of locomotives and the grades. The train lengths of freights vary up to about 75 cars, the passing tracks ranging in capacities from 60 to 77 cars. In general, the passing tracks are fairly close together; 4.5 to 5 miles apart.

On the 130 miles between Chapleau and White River there are 24 passing tracks, and on the 118.3 miles between White River and Schreiber there are 22, while on the 108 miles between London and Walkerville Junction on the Windsor subdivision there are 22 passing tracks. The turnouts at the ends of these passing tracks are No. 11, and the switches are hand-throw except in a few instances where the switches are included in interlockings.

Increase Safety

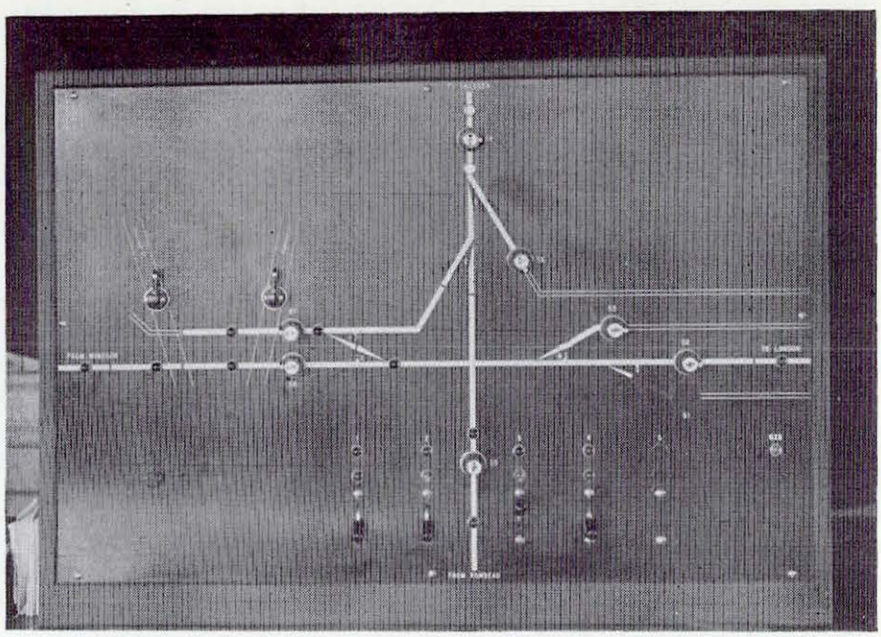
Train movements are authorized by timetable and train orders and, in addition, prior to the installation of automatic signaling, there was a time block. For example, out of any open office



there was a 20-minute block behind every passenger train. Trains other than passenger trains were required to keep at least 10 minutes apart except when closing up on stations. A snowplow train, a light engine or a lightly loaded freight train (50 per cent of full tonnage or less) was required to receive a clearance at open offices and not follow any train unless clearance showed arrival at a station ahead. If the station from which it is to follow is not an open office, it may follow in 20 minutes to the first open office.

Three-Aspect Signals Used

With traffic heavier than normal, the practice has been to operate two or more sections of the scheduled trains. Timetable and train order operation, including compliance with the time blocking, caused numerous delays, especially on divisions where it was impracticable for many years to maintain open offices at all, or any major percentage, of the passing tracks. On the other hand, with the new automatic block signaling,



Control panel for all-relay interlocking at Chatham, Ont.

Summary of Trains Operated Between Chapleau and Schreiber and the Overtime Paid Enginemen and Trainmen for the Period November to April, 1942-1943 as Compared with 1944-1945

	1942-43	1944-45	Increase	Decrease
Trains Operated	4,455	4,930	475—10.7 per cent	
Total Overtime Paid	$25,749.00	$11,763 00		$13,986.00—54.3 per cent
Average Overtime Paid	$5.78	$2.39		3.39—59.0 per cent

trains can follow with safety at spacings the length of the automatic blocks. Primarily for this reason, the intermediate signals were arranged to provide minimum safe spacing between following trains. Using three-aspect signals, a yellow aspect is displayed when the preceding train has cleared one block, or the green aspect when two or more blocks have been cleared. When running on green aspects, the enginemen have confidence to proceed at maximum permissible speed, thereby freeing sections of track between sidings more quickly to be used by other opposing trains.

The accumulated benefits of these time savings are shown by comparisons of train operations before and after signals were installed on the 250 miles between Chapleau and Schreiber. During the seven months, November, 1942, to April, 1943, inclusive, before signals were installed, 4,455 trains were operated with a total of $25,749 overtime to engine and train crews. In the corresponding months of 1944 and 1945, after signals were in service, 4,930 trains were operated, an increase of 10.7 per cent, but the total overtime payment to engine and train crews was only $11,763, a reduction of $13,986, or 54.3 per cent. The average overtime payment per train operated was reduced from $5.78 to $2.39, a reduction of $3.39, or 59 per cent.

The automatic block signaling affords broken rail protection, and, therefore, track patrol service is not necessary on Sundays or holidays, which has made a saving of $5,200 annually on a subdivision of about 100 miles, such as the Windsor subdivision. Studies made during peak traffic periods show that the installation of automatic signals on a single-track subdivision has increased the capacity about 20 per cent, in terms of the number of trains which can be handled daily without delays.

Accidents That Do Not Happen

Accidents which are prevented by automatic block signals are ordinarily an unknown factor; however, in a recent instance on a subdivision signaled in 1943, the record is complete. A mistake was made when copying a train order. An extra freight train, which had a copy of the order, proceeded against a first-class passenger train running on schedule. The freight train was stopped at a station-leaving absolute signal, and the passenger train was stopped at the entering signal at the same point. Consequently there was no mishap and very little delay.

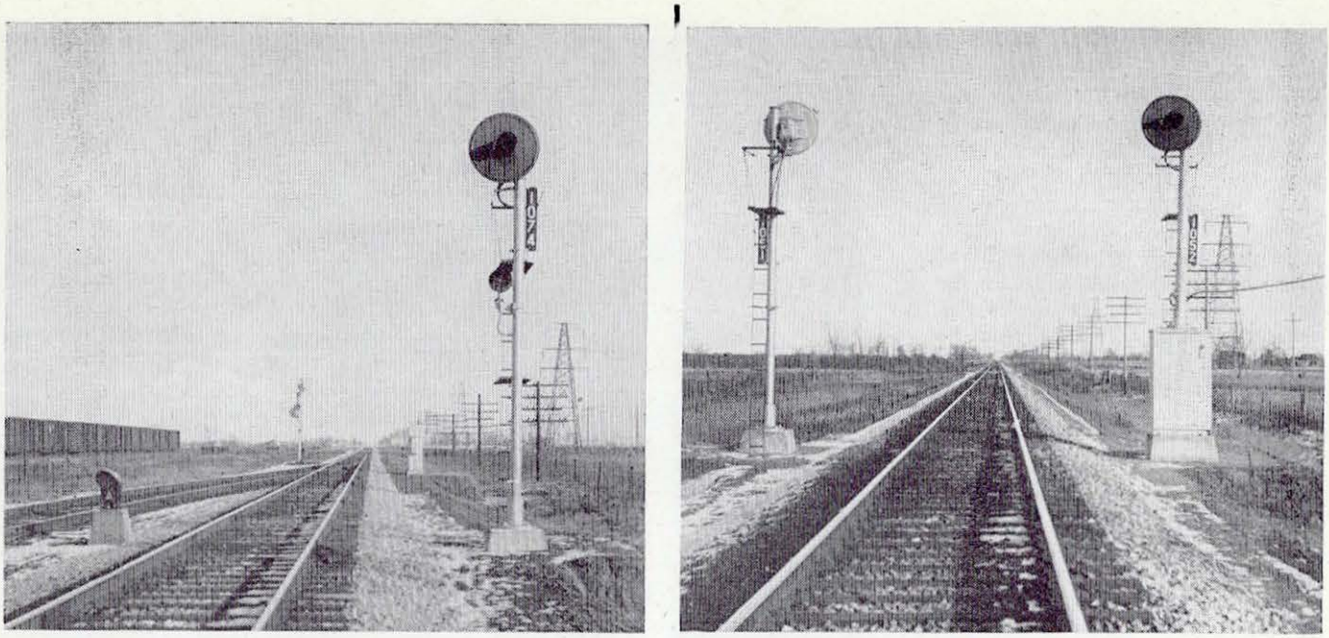
Thus, not only with reference to increased safety, but also by savings in train time, the Canadian Pacific has specific information concerning the benefits accomplished by the automatic block signaling.

Special Arrangement of Signals

A special feature of the signaling installed since 1943 on the Canadian Pacific, Eastern Lines, is the arrangement of signals at the ends of sidings, as shown in the sketch which applies to St. Joachim, Ont., on the Windsor subdivision. The two entering signals, 1 and 8, each have two operative "arms," each consisting of a searchlight signal head. The upper one is mounted to the left of the mast, and the lower to the right, the vertical distance between centers being 5 ft. 6 in. The upper "arm," which governs on the "straight" track route, displays three aspects, red, yellow or green, over a red in the lower "arm." The lower "arm" normally displays red, but when the switch is reversed by operation of the hand-throw stand, then the station-entering signal, such as 1, displays an aspect of red-over-yellow, if the turnout is unoccupied.

The main track signals, such as 2 and 7, are absolute signals, being so designated by a lunar white marker unit which is mounted on the mast 5 ft. below the main signal unit. This marker is lighted in combination with any aspect in the main unit.

An important fact is that these main-track absolute station-leaving signals, such as 2 and 7, are located opposite the clearance point on the turnouts, thus being "short" of the switches, so that, for example, an eastbound train, which is to hold the main track for a meet, can safely pull on down and stop short of signal



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Thus this special arrangement of high signals and dwarfs, at the ends of the sidings, improves the protection and saves train time in this automatic block system, and, furthermore, the signals are in the proper locations to be used as semi-automatic signals if the system is later converted to centralized traffic control.

The spacings between intermediate signals are as short as practicable in order to reduce the spacing between following trains. On the other hand, with three-aspect signals, the length of each block should be at least train stopping distance, which depends on the grades and curvature as well as the weights and speeds of trains. Between Windsor, Ont., and London, where the grade is practically level and tangent for long distances, the train stopping distance is based on 7,000 ft. for passenger trains at 90 m. p. h., or freight trains at 45 m. p. h. Where signals cannot be spaced 7,000 ft. or more, on account of the length of sidings or the division of distance between sidings, the controls are arranged for two signals to display the yellow aspect in approach to a signal displaying the red aspect.

Where the distance between sidings is short, as for example about 4 miles, one pair of intermediate signals is provided. Where the distance between sidings ranges from about 5 miles to 6 miles, there are two double locations, and for fast track this is enough intermediates where the distance between sidings is up to 7 miles. However, where the train speeds are slower on account of grades or curves, three double locations of intermediates are provided. Thus the intermediate signals were planned to provide for comparatively close spacing between following trains.

Special Layout

At Elmstead there is a business track extending from the west end of the passing track, as shown in one of the sketches. The switch connecting the passing track to the business track is normally lined for the route from the siding over the crossover to the main track. Based on the fact that it is not good practice to allow enginemen to pass any signal displaying the red aspect, the problem was to signal this layout so that a proceed aspect could be displayed for a switching movement from the passing track to the business track. The solution was to provide a second operative unit on the leave-siding dwarf 1007B. Normally this signal displays the red-over-red aspect. When a westbound train is to pull out on the main track and the main-track switch is reversed, then main-track signal 1007 displays the Stop aspect and leave-siding dwarf 1007B displays yellow or green in the top "arm," with red in the bottom "arm." On the other hand, if the switch from the passing track to the business track is reversed, the dwarf displays red-over-yellow. This eliminates the practice of authorizing enginemen to disregard a red aspect when making a switching move.

Protection at Spring Switch

At the west end of Chapleau and at the east end of White River yard there is a spring switch mechanism with a mechanical facing-point lock on the switches which connect the yard lead to the main track, so that trains departing from the yards can trail through without stopping. The signals at the switch at Chapleau are shown in one of the diagrams.

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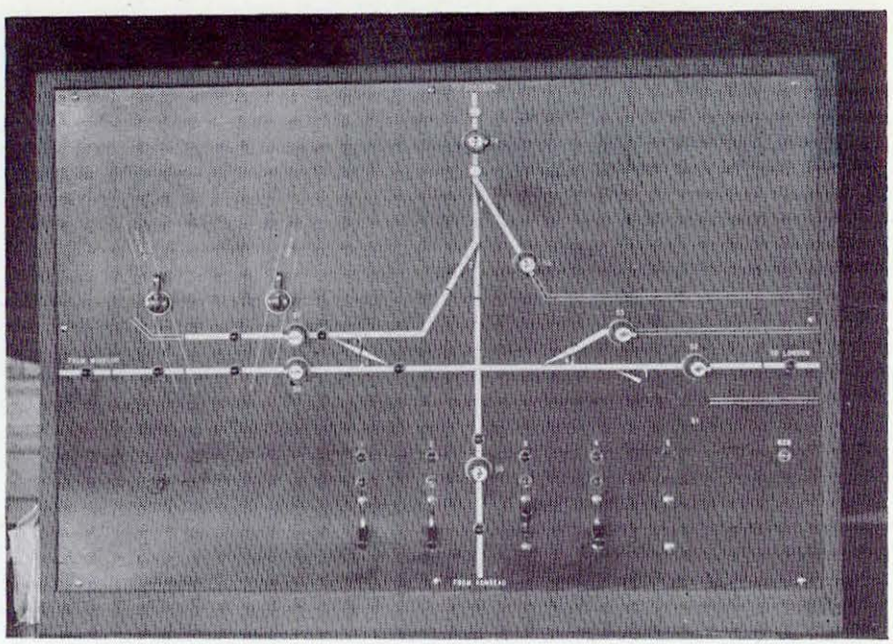
(Continued on page 875)

there was a 20-minute block behind every passenger train. Trains other than passenger trains were required to keep at least 10 minutes apart except when closing up on stations. A snowplow train, a light engine or a lightly loaded freight train (50 per cent of full tonnage or less) was required to receive a clearance at open offices and not follow any train unless clearance showed arrival at a station ahead. If the station from which it is to follow is not an open office, it may follow in 20 minutes to the first open office.

Three-Aspect Signals Used

With traffic heavier than normal, the practice has been to operate two or more sections of the scheduled trains. Timetable and train order operation, including compliance with the time blocking, caused numerous delays, especially on divisions where it was impracticable for many years to maintain open offices at all, or any major percentage, of the passing tracks. On the other hand, with the new automatic block signaling, trains can follow with safety at spacings the length of the automatic blocks. Primarily for this reason, the intermediate signals were arranged to provide minimum safe spacing between following trains. Using three-aspect signals, a yellow aspect is displayed when the preceding train has cleared one block, or the green aspect when two or more blocks have been cleared. When running on green aspects, the enginemen have confidence to proceed at maximum permissible speed, thereby freeing sections of track between sidings more quickly to be used by other opposing trains.



Control panel for all-relay interlocking at Chatham, Ont.

Summary of Trains Operated Between Chapleau and Schreiber and the Overtime Paid Enginemen and Trainmen for the Period November to April, 1942-1943 as Compared with 1944-1945

	1942-43	1944-45	Increase	Decrease
Trains Operated	4,455	4,930	475—10.7 per cent	
Total Overtime Paid	$25,749.00	$11,763 00		$13,986.00—54.3 per cent
Average Overtime Paid	$5.78	$2.39		3.39—59.0 per cent

The accumulated benefits of these time savings are shown by comparisons of train operations before and after signals were installed on the 250 miles between Chapleau and Schreiber. During the seven months, November, 1942, to April, 1943, inclusive, before signals were installed, 4,455 trains were operated with a total of $25,749 overtime to engine and train crews. In the corresponding months of 1944 and 1945, after signals were in service, 4,930 trains were operated, an increase of 10.7 per cent, but the total overtime payment to engine and train crews was only $11,763, a reduction of $13,986, or 54.3 per cent. The average overtime payment per train operated was reduced from $5.78 to $2.39, a reduction of $3.39, or 59 per cent.

The automatic block signaling affords broken rail protection, and, therefore, track patrol service is not necessary on Sundays or holidays, which has made a saving of $5,200 annually on a subdivision of about 100 miles, such as the Windsor subdivision. Studies made during peak traffic periods show that the installation of automatic signals on a single-track subdivision has increased the capacity about 20 per cent, in terms of the number of trains which can be handled daily without delays.

Accidents That Do Not Happen

Accidents which are prevented by automatic block signals are ordinarily an unknown factor; however, in a recent instance on a subdivision signaled in 1943, the record is complete. A mistake was made when copying a train order. An extra freight train, which had a copy of the order, proceeded against a first-class passenger train running on schedule. The freight train was stopped at a station-leaving absolute signal, and the passenger train was stopped at the entering signal at the same point. Consequently there was no mishap and very little delay.

Thus, not only with reference to increased safety, but also by savings in train time, the Canadian Pacific has specific information concerning the benefits accomplished by the automatic block signaling.

Special Arrangement of Signals

A special feature of the signaling installed since 1943 on the Canadian Pacific, Eastern Lines, is the arrangement of signals at the ends of sidings, as shown in the sketch which applies to St. Joachim, Ont., on the Windsor subdivision. The two entering signals, 1 and 8, each have two operative "arms," each consisting of a searchlight signal head. The upper one is mounted to the left of the mast, and the lower to the right, the vertical distance between centers being 5 ft. 6 in. The upper "arm," which governs on the "straight" track route, displays three aspects, red, yellow or green, over a red in the lower "arm." The lower "arm" normally displays red, but when the switch is reversed by operation of the hand-throw stand, then the station-entering signal, such as 1, displays an aspect of red-over-yellow, if the turnout is unoccupied.

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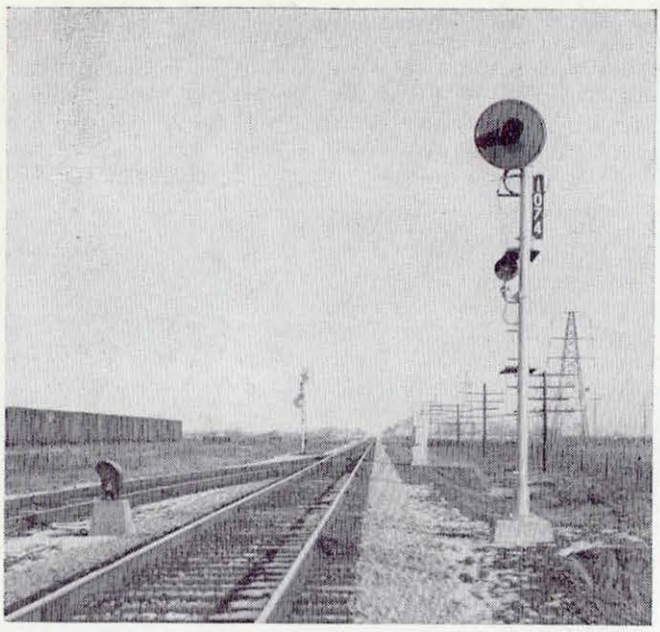

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(Continued on page 875)

Key punch operator in Hamilton Park (Chicago) accounting office transcribing from a film-reader directly to an I. B. M. card punch. Daily freight traffic manifests and other accounting data are prepared from these micro-filmed waybills

Micro-filming Speeds Waybill Handling

Rock Island's installation of photographic equipment for micro-filming waybills minimizes interchange delays and eliminates errors in transcribing shipper's instructions

THE micro-filming of station and accounting records was inaugurated on the Rock Island in 1938, resulting in a great increase in the speed with which freight cars are interchanged with foreign lines. Delays resulting from the time taken by yard clerks to copy by hand or typewrite essential accounting information contained in the waybills have been eliminated. Micro-filming involves the reduction of original paper documents to film miniatures which, on being developed, can be enlarged many times on translucent screens, or as facsimile prints. The fastest typist requires several minutes to copy an average full page letter and approximately one minute is required for a clerk to copy a waybill, but through the use of micro-filming 35 to 60 duplicates can be made in one minute.

Operation Is Automatic

The Recordak photographing machine, used for the micro-filming, is mechanically operated. Exposure time and focus are regulated and no adjustments are required. As the documents are fed into the machine, they pass over a revolving drum and are photographed on 16-mm. film, which moves in synchronization with the drum, as the bills pass an opening. The amount of film used for each exposure is automatically controlled, and just the right amount of film is advanced to include the subject being filmed. The photographing is accomplished automatically and if the waybills are fed incorrectly, or if the film should become exhausted, a warning bell rings.

When information is desired from waybills that have been micro-filmed, a stenographer transcribes it from a film image approximately one and one-half times the size of the original, which is projected on a translucent screen of

Clerk in Rock Island's Kansas City office photographing waybills. This procedure, in addition to expediting interchange, has eliminated the preparation of a duplicate waybill for cars that are diverted at this terminal

a Recordak film-reader. The projection head of this machine is mounted on top of a cabinet and carries the complete film gate and winding mechanism. The head is designed to rotate through 360 deg. to permit the upright viewing of images regardless of their position on the film.

Recordak machines for the micro-filming and projection of waybills on the Rock Island were first installed at larger terminals such as Chicago and Burr Oak, Ill., Kansas City, Mo., Armourdale, Kan., Council Bluff, Iowa, and Ft. Worth, Tex. The machines located in the Chicago and Kansas City offices were used for billing local l. c. l. collect shipments, while the other machines were for the purpose of eliminating the manual preparation of junction passing reports.

Steps Up Efficiency

After a careful analysis of the results obtained from several years' performance the railway decided that micro-filming possessed merits which could be utilized advantageously at other less congested terminals. Subsequent installations speeded the handling of passing reports and, by insuring against omissions, provided more accurate and more detailed records—effecting also a material reduction in clerical effort. Micro-filming equipment is now in service in yards at Joliet, Ill., and Amarillo, Tex., in connection with the preparation of junction passing reports. At the Memphis, Tenn., freight office this method is being used both for junction passing reports and local l. c. l. collect waybilling.

The micro-filming equipment used at the larger terminals is designed to make duplicate copies of the film simultaneously. The exposed films are cut at midnight each day and mailed to the Recordak laboratory, where they are developed on the day of arrival. One copy is returned to the originating terminal to serve as a passing report and the second copy is mailed direct to the accounting department at Chicago for use in preparing daily freight traffic manifests and accounting purposes.

Smaller terminals employ smaller micro-filming units comprising a combination camera and reader, capable of making approximately 35 exposures per minute. Unlike the larger terminals where a much greater volume of traffic is handled, the small terminals cut the exposed film at midnight every third day and mail to the laboratory for developing. Only one copy is made and this is returned to the originating terminal. Upon receipt of the developed film at the terminal it is run through the reader side of the Recordak and a passing report is prepared from the film, these reports being supplied to the accounting department in the usual manner. Although these small terminals do not have a large number of waybills to enter on their passing reports, this method of handling offers tangible relief, since the preparation of the passing report can be shifted to a non-rush period.

Equipment Rented

Recordak micro-filming equipment is furnished the Rock Island on a rental basis, which includes servicing and inspection. The accompanying table gives the approximate cost for micro-filming waybills at both the large and smaller terminals. These figures include rental of equipment, film and developing charges.

Number of Waybills Daily	Small Terminal Approximate Monthly Cost	Large Terminal Approximate Monthly Cost
100	$27.00	$47.40
200	30.75	52.20
300	34.50	57.00
400	38.25	61.80
500	42.00	66.90
600	45.75	71.70
700	49.75	76.50
800	53.25	81.30
900	57.00	86.10
1,000	60.75	90.90

Under the old plan, junction passing reports were prepared manually at all stations, either by typing or writing all the required information from the original waybills. This, of course, resulted in the holding of waybills for making the passing report, delayed car deliveries to connecting lines and often held up the switching crew while the clerk was completing the passing report. In many instances errors were made in transcribing the information and waybills were inadvertently omitted, because of employees' hurried efforts to prepare this record in the least possible time.

In the handling of local l. c. l. shipments, the micro-filming of waybills has done much to improve the movement of freight shipments, and eliminate errors in billing and their resultant claims. Shipping orders are given a waybill number upon receipt, and the date is inserted in a stamp imprint placed in the upper right hand corner. Sufficient space is provided in this stamp for showing rates and the extended freight charges. After numbering, rating and extending the charges, the shipping orders are photographed, after which they are allowed to accompany shipment to destination in lieu of a waybill. The shipping orders serving as waybills are treated by the receiving agents in the same manner as any other waybill. The developed film is retained at the station and serves as the billing record.

Originally the waybills for local l. c. l.

shipments were prepared manually by billing clerks or other employees by typewriter. These waybills were prepared from the shipping order part of the bill of lading, after the latter had the rates insertion thereon and the freight charges extended. Essentially, all the data regarding destination, consignor, consignee, articles, weight, rates and the charges were wholly transcribed from the shipping order to a waybill form, thus making the waybill an exact duplicate of the shipping order.

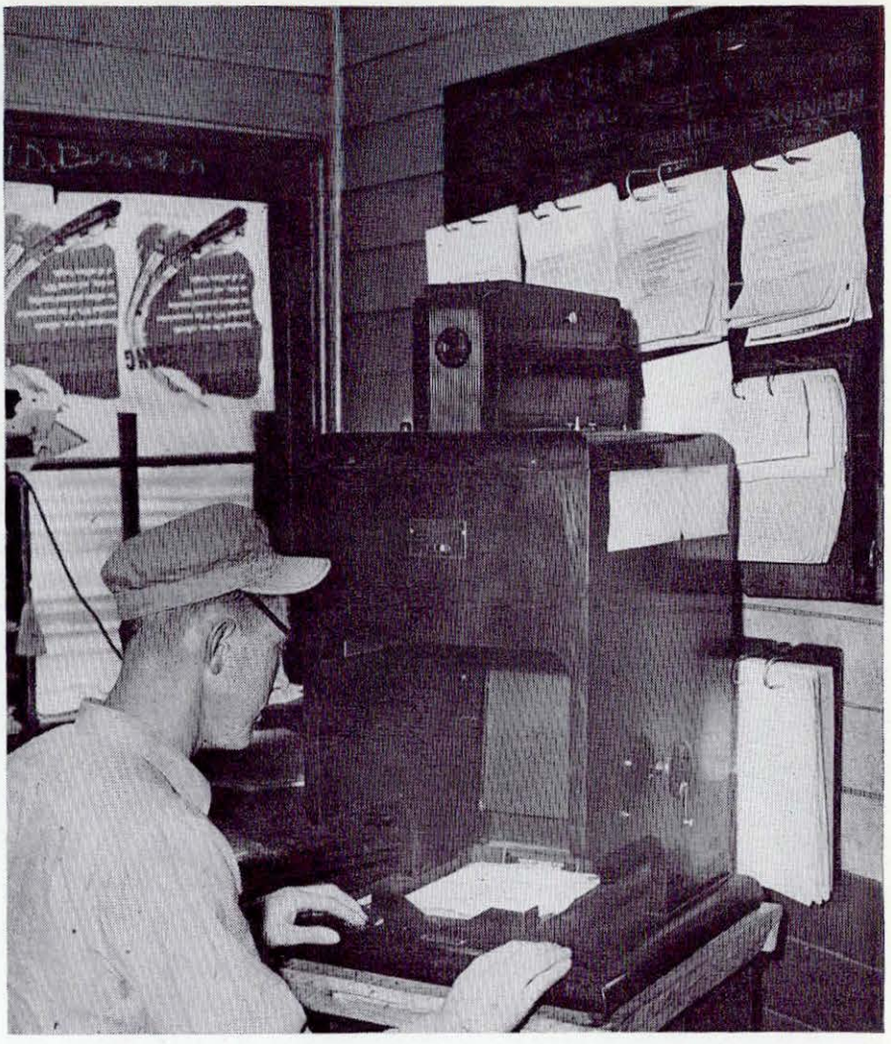
Diversions at Terminals

Prior to the installation of micro-filming equipment it was necessary to make a copy of the waybill for each car that was diverted. This copy, like the original, gave all the information before diversion and also the corrected information after diversion. This duplicate copy is no longer required, since the original, after having the diversion information applied thereon, is micro-filmed, thus the agent has a facsimile of the original waybill to retain in his files.

When delivering carload shipments of perishables to connecting lines, the agent at the off-going junction point is required to submit to the superintendent of refrigerator service a detailed report, showing all pertinent information, such as the amount of ice in bunkers, whether vents are open or closed and other data regarding heaters and ventilators. Prior to the installation of the micro-filming system, it was necessary to hold the original waybills until the required information could be transcribed to the protective service report. By the use of photography, these reports are now being made from the developed film; in this manner they are being made more accurately since the necessity for haste is eliminated.

Eliminates Searching Files

Micro-filming is also assisting in the handling of interchange corrections. The auditor of car service accounts finds it necessary from time to time to issue corrections in connection with the interchange reports rendered by the various terminals covering cars delivered to foreign lines. These corrections often cover discrepancies in car initials or numbers and, under the old system, considerable time was consumed in obtaining the required information at the terminal points to make these corrections. Usually the correct information was obtained from the car index book, or by going through the various switch lists and possibly the inbound train consists. These latter documents were frequently not filed in such a manner that they could be easily located.



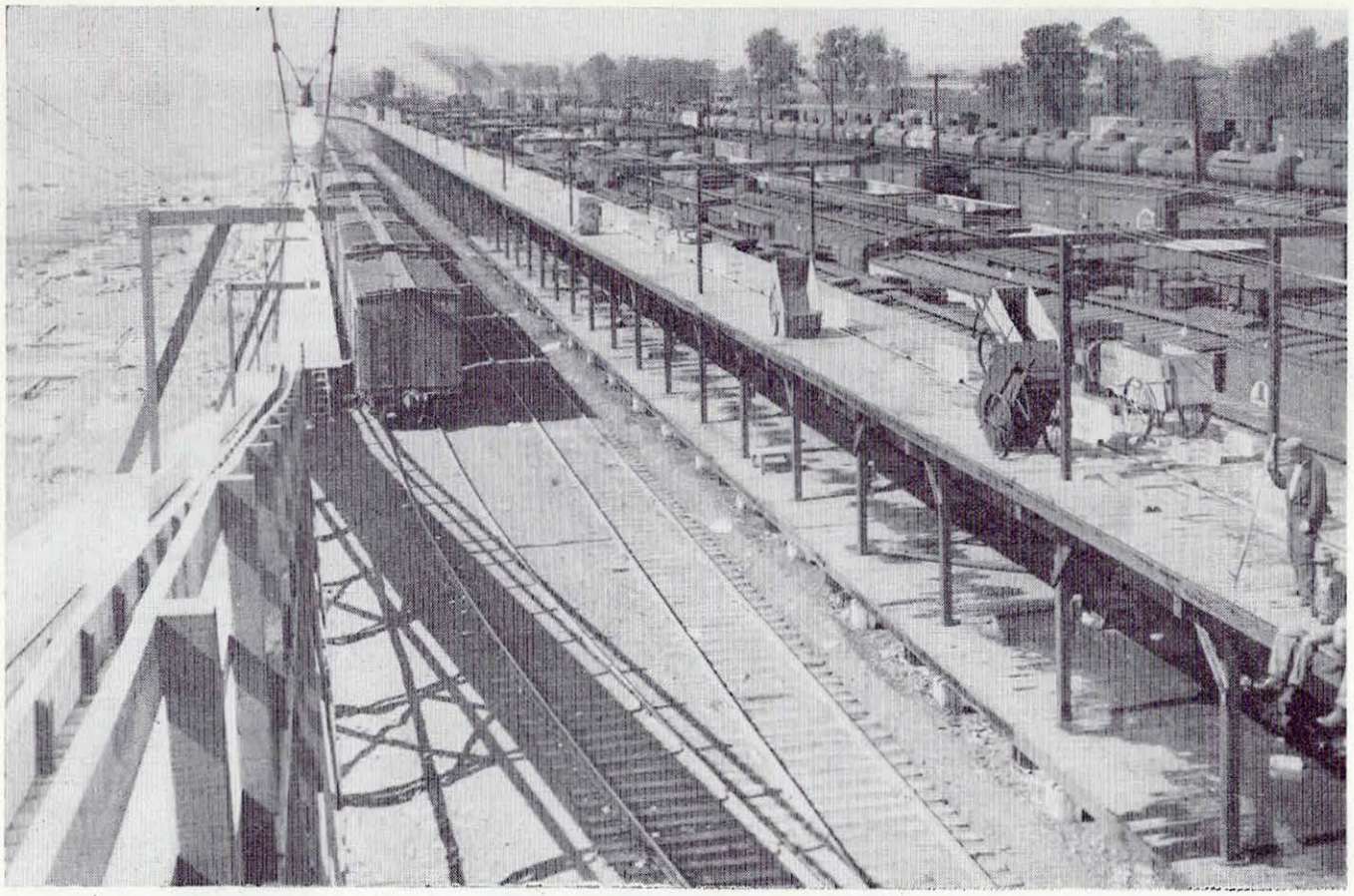
Yard clerk at Joliet freight house microfilming waybills with combination camera and reader before delivery to connecting lines

Since the installation of the photographic system much of this file searching has been eliminated. When the correction covers a carload shipment, the delivery date is shown on the correction. It is, therefore, a simple matter to locate the copy of the waybill appearing on the film, where the correct information may be readily found, since it is an exact reproduction of the original waybill.

One of the most recent applications of micro-photography on the Rock Island was in conjunction with the introduction of one-coupon railroad tickets, inaugurated in cooperation with the Southern Pacific. The use of one-coupon tickets gave rise to many complicated accounting problems, since the road last hauling the passenger was required to furnish the other carrier with a duplicate ticket containing all information appearing on both sides of the original for billing and accounting purposes. To eliminate the necessity for copying data from both sides of these tickets, micro-filming equipment was installed to photograph each ticket lifted by the Rock Island, and the Southern Pacific is now furnished a facsimile for protection of revenue and checking purposes.

Micro-filming is also being used in the engineering, treasury, legal and real estate departments of the Rock Island. At present this process is being used for the preservation of land valuation records, station plans, standard plans, right-of-way maps, profiles, bridge and building plans—primarily as a safety measure against the possibility of destruction of the original.

Copies of many of the 888 different reports required by the federal and state governments must be retained by railroads for various periods ranging from one to fifteen years, while others must be retained permanently. This large volume of records requires extensive vault and storage space. The Interstate Commerce Commission has long recognized this handicap and, upon application, numerous carriers have been granted permission to use micro-film photographs for original records.



Looking south from the gravity ice slide. Note conveyor in operation on icing platform. At left is inclined conveyor with unloading dock in background

Icing Plant Speeds Perishable Traffic

New facility on Missouri Pacific is characterized by modern design, mechanized operation, special features and use of treated timber throughout to minimize upkeep costs

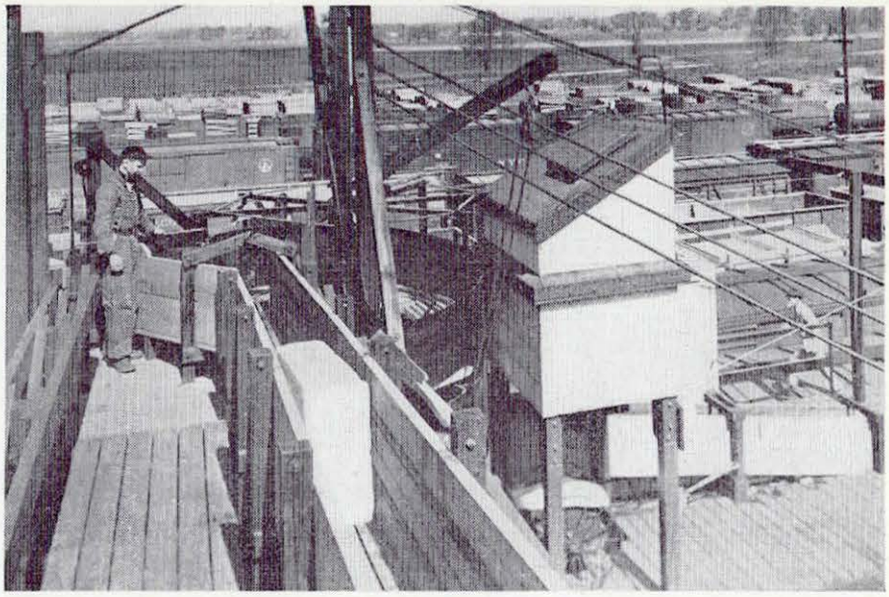
MODERN practice in the design and construction of stations for icing refrigerator cars, with emphasis on operating efficiency through mechanized methods and on economy in maintenance, is exemplified in a structure built recently on the Missouri Pacific at Dupo, Ill. One of the largest car-icing stations in the country, the new facility is so designed that a train of 100 refrigerator cars can be iced at a time. Because of its size and the speed and efficiency with which it is designed to operate, the station is an important factor in helping to speed the movement of perishables to the North and East by materially reducing the time required for icing at Dupo.

The new icing facility consists of two principal units—an ice receiving and unloading dock at car-floor level and an island-type high-level icing platform incorporating a low-level platform for part of its length. The high-level platform is of sufficient length to permit 50 cars to be accommodated on each side for bunker icing, while the length of the double-deck portion is such that eight cars on each side can be handled simultaneously for re-top or body icing from the lower deck.

Mechanical features of the facility include three motor-driven endless conveyor chains, one for handling the blocks of ice from the unloading dock to the top of an incline, from where they are chuted by gravity to the icing platform, and two on the high level of the latter structure, by means of which the ice is delivered both ways from the point of receipt to any location on this level. Other mechanized equipment includes a Creasey ice breaker, located on the high-level platform; a number of crusher-slingers on the low level for use in body icing; and a Redler motor-driven elevator, by means of which bulk salt is lifted from a salt storage room under the icing dock to an overhead hopper on the upper level. Among the special features of the plant is an arrangement of diversion gates in connection with a spiral chute, by means of which the routing of ice cakes is greatly facilitated.

Both the icing platform and the unloading dock, as well as the supporting structure for the inclined conveyor and other load-carrying parts of the new facility, are of timber construction. For the most part, the bents are of the frame type supported on concrete pedestals, al-

though pile butts are used for supporting the unloading dock. Practically all timber parts are protected against decay by pressure treatment with either Wolman salts or creosote. The frame bents, bracing and stringers are of creosoted material. However, to prevent the ice from absorbing objectionable odors that could later be transmitted to fruits and vegetables, all parts of the structure that are likely to be in direct contact with the ice were given the desired resistance to decay by treating them with Wolman salts rather than creosote. These parts include the platform docking, the sides and bottoms of all ice chutes, including those of the inclined conveyor, and two lines of skid timbers along the path of each horizontal conveyor. A measure of the size of the facility and of the amount of treated material used is the fact that the structure contains approximately 194,000 ft. b. m. of creosoted timber and 96,000 ft. b. m. of Wolmanized material.



Lower end of gravity slide from top of inclined conveyor, showing workman at diversion gate for routing ice either to crusher or to spiral chute

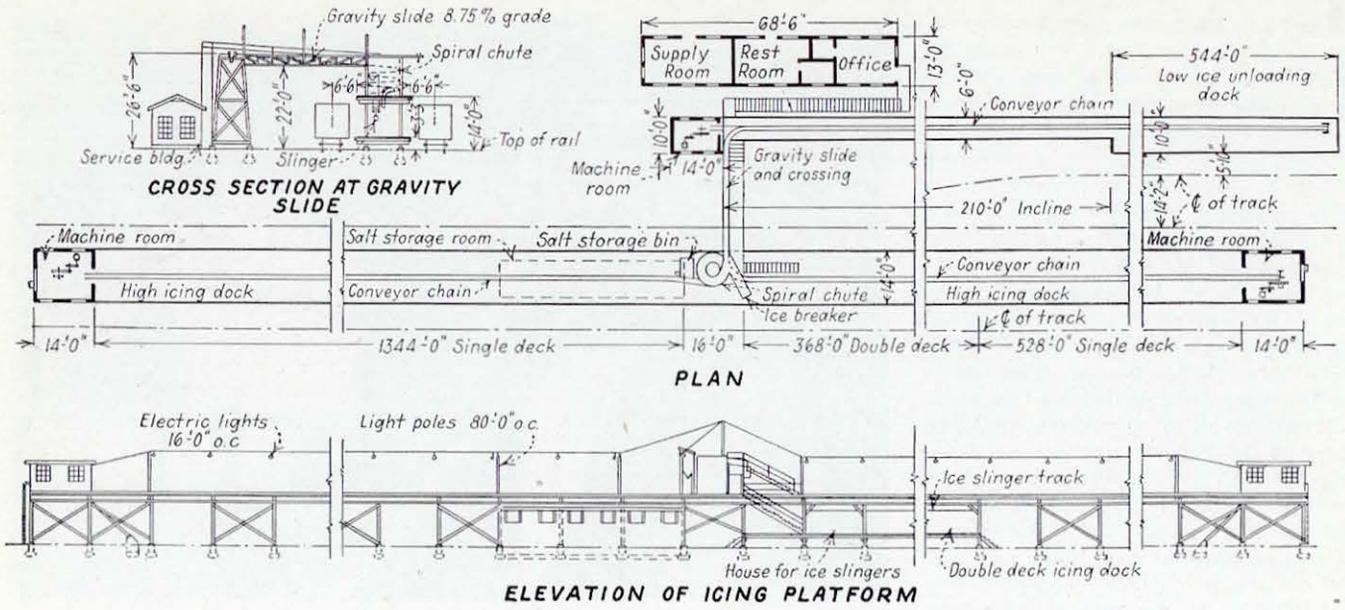
An Important Icing Station

Dupo is located 13.5 miles south of St. Louis, Mo., on the Illinois side of the Mississippi river, and is a point on the main freight line of the Missouri Pacific from Texas and other southwestern points. It is a regular icing station on this route for cars carrying fruits and vegetables produced in the lower Rio Grande valley, as well as in other south and southwestern growing regions. During the height of the growing season the number of cars of perishables serviced at Dupo amount to as many as 6,000 monthly, with the yearly average approximating 70,000 cars. Hence, the new icing station, which cost about $260,000, constitutes a vital factor in handling this large volume of perishable traffic, not only by reducing the time formerly required for re-icing refrigerator cars, but also because its greater efficiency and improved design have brought about a material reduction in the cost of operation compared with the facilities that were replaced.

The unloading dock and the icing platform are parallel with each other in a generally north-south direction, with their center lines 38 ft. 6 in. apart, allowing sufficient space between for two tracks, one for cars of ice to be unloaded and one for refrigerator cars to be iced. The unloading dock, which is 3 ft. 3 in. high above the top of rail, is 10 ft. wide and of sufficient length (544 ft.) to accommodate 12 cars. At its northerly end the unloading dock is joined longitudinally with an inclined trestle, 210 ft. long, which rises on a grade of 12.9 per cent to a height of 26 ft. 6 in. above the top of rail. Incorporated in the unloading dock and the inclined trestle is one of the conveyor chains mentioned previously, by means of which the 300-lb. cakes of ice are moved from the low-level dock to the top of the incline, where they pass onto a transverse gravity slide which carries them across the intervening tracks to a point over the icing platform. This slide is on a grade of 8.75 per cent and, along with a walkway for workmen, it is supported by two timber trusses having a clearance of 22 ft. above the top of rail.

At the lower end of the gravity slide, which is 9 ft. 4 in. above the elevation of the high-level platform, a diversion gate is provided by means of which the ice cakes may be routed either into a chute leading to the Creasey ice breaker or into a spiral chute that delivers them to either of the chain conveyors on the high-level platform. The spiral chute is enclosed within a cylindrical steel shell, 8 ft. in diameter, and has slides made of 2½-in. by 2½-in. oak pieces supported on radial steel channels. By means of another diversion gate near the lower end of the spiral chute the cakes of ice may be routed into one or the other of the two conveyor chains

Workmen icing refrigerator cars from the high-level platform



Plan of the icing station, with elevation of the icing dock and cross-section at the overhead gravity slide

serving the high-level platform. The diversion gates and the spiral chute constitute an arrangement which adds greatly to the efficiency of the plant.

The icing dock has a total length of 2,284 ft. and the spiral chute is so located on it that the conveyor serving the northerly end of the high-level platform is 1,353 ft. long and that serving the southerly portion is 905 ft. in length. The conveyors extend along the center line of the platform, which is 14 ft. wide. Ice cakes moving along on the conveyors are pulled off where needed by workmen using long-handled hooks and are broken into pieces of the desired size before being placed in the bunkers of the "reefers." Later, smaller pieces of ice are added to fill the crevices. Crushed ice for the latter purpose, and also to mix with salt for use in the brine tank equipment on those cars where a lower temperature is required, is provided by the ice breaker, which is powered by a five-horsepower motor.

The three conveyor chains incorporated in the icing station are entirely independent of each other. They are each driven by a 30-hp. motor and are geared for a speed of approximately 110 ft. per min. The direction of travel is reversible, thereby adding considerably to the efficiency and flexibility of operation. The motors and the necessary drive gears and other equipment are housed in three machinery rooms, one at the upper end of the incline and one at each end of the high-level platform.

To permit ready access to the upper portions of the icing station several stairways are provided, including one at the northerly end of the inclined conveyor and another in the icing platform near the spiral chute. Ample illumination for night operation is provided by lines of electric lights strung overhead on the unloading and icing platforms, the inclined conveyor, and elsewhere as needed, the supports for the lights consisting of timber posts and cross pieces or brackets.

Low-Level Platform

The low-level deck of the icing platform, which is also 14 ft. wide, is 368 ft. long and is located directly south of the spiral chute. Operating on this platform are the crusher-slingers mentioned previously. These devices are suspended from an overhead track in such a manner that they can be moved to any position desired along the platform for icing cars through their side doors. By means of ice traps placed on eight-foot centers in the deck of the high-level platform, large blocks of ice can be dropped into the hoppers of the crusher-slingers. From these slingers the ice emerges through long flexible tubes in the form of "snow ice" which is spread over the produce in the cars. An enclosed shelter is provided on the low-level platform for housing the crusher-slingers when they are not in use.

Salt for use at the icing station is stored in a room 10 ft. by 48 ft. 8 in. in plan located underneath the high-level platform directly north of the spiral chute. In one corner of this room is a hopper pit, covered with a steel grating, from which the salt is lifted to an overhead two-ton salt bin on the high-level platform by means of the Redler elevator. This is a No. 5 Type L elevator which, powered by a three-horsepower motor, has a lifting capacity of eight tons per minute. Distribution of the salt is by means of two-wheel, hand-pulled salt buggies.

Aside from the facilities already described, the new icing station includes a service building, located near the north end of the inclined conveyor, which is 13 ft. by 68 ft. 6 in. in plan. This building contains an office (12 ft. by 16 ft.) with adjoining lavatory, a rest room (12 ft. by 20 ft.) for employees, with lavatory and toilet facilities, and a supply room (12 ft. by 24 ft.). In common with the salt storage room and the three machinery rooms, the service building is of timber-frame construction. The roofs of all the structures are covered with slate-surfaced asbestos roofing over sheathing consisting of one-inch secondhand car siding, and the exterior walls are finished with asbestos-cement shingles on 15-lb. felt, also over secondhand car siding. The floors and foundations of the service building and the salt room are of concrete, while those of the machinery rooms, which are all at the higher levels, are of timber.

The new icing station was built and is being operated by the American Refrigerator Transit Company, owned by the Missouri Pacific and the Wabash. All design and supervision of construction were performed by the engineering department of the Missouri Pacific under the general direction of R. P. Hart, chief engineer. The construction work was done under contract by H. B. Deal Company, St. Louis, from detailed plans prepared by A. L. Becker, Missouri Pacific architect. J. A. Friend, superintendent of refrigerator service of the American Refrigerator Transit Company, collaborated in the making of plans, and he and Mr. Becker had general supervision of the construction.

Profits More Likely If They're Shared

Trend of earnings and expenses seen dooming private ownership unless labor is given incentive to boost efficiency

By WILLIAM WYER
Chief Executive Officer
Central of New Jersey

The Author

THE figures of railway traffic, earnings and expenses indicate that the railroad industry is being squeezed out of existence as a self-supporting private enterprise. I invite attention to the accompanying table which sets forth selected statistics of traffic, expenses and earnings, comparing 1922 with 1939. I am omitting the war years from this comparison because I want the period to show what happens during normal times without the dislocations brought about by wars. Actually, if the comparison were made over a period including one of our major wars, the squeezing process would be seen to be very much accelerated by war conditions.

My reason for using these two years for this comparison is that freight traffic, as measured in revenue ton-miles, was approximately the same in both years. The comparison would not be perceptibly more favorable if any other two years—i. e., contrasting the beginning and the end of the inter-war period—had been chosen for this purpose.

It will be noted that average revenue per ton-mile declined 18 per cent while the average hourly wage rose 22 per cent and taxes increased 18 per cent. In spite of large economies in operating expenses, net railway operating income declined 22 per cent and the rate of return on the investment fell off by more than one-third. Net income available for stockholders declined by two-thirds, in spite of the fact that the equity interest in the carriers rose by 39 per cent. The equity interest in the railroads was almost $4 billion more in 1939 than it was in 1922, but the return on the equity investment declined from 4.3 per cent to only slightly more than 1 per cent.

Last year, before the movement began for increased wages on the railroads which has now culminated in large awards in favor of employees, there were conferences between representatives of railway management and the unions to discuss their common problems. There was general agreement by the union leaders that the interests of the employees were parallel to those of railway owners, but I believe the question may well be asked whether this parallelism of interest is actually *realized* by railway employees. They have seen their pay checks continue to increase during a period when earnings on railway capital have been very meager. The recent survey by *Railway Age* (issues of March 2 and 23) of railway employee opinion indicates that 36 per cent of employees could not even guess as to what the rate of earnings by the railways is, while only 4 per cent placed these earnings on the investment at 5 per cent or less; 5 per cent estimated them from six to nine per cent and 55 per cent placed them at ten per cent or more. Actually the rate of return earned on railroad property was six per cent in 1942; 5.43 per cent in 1943; 4.18 per cent in 1944; 3.25 per cent (estimated) in 1945—or an average of 4.72 per cent for the four years.

"Fair Return" Forsaken

We all know, however, that these four years, judged by past performance, have been extremely prosperous—and yet, even in such extraordinary times, the carriers have earned less than 5 per cent. There was a time when the railroads were striving to earn a "fair return" of 5½ per cent, but now, apparently, the effort toward such a return has been given up and a return barely sufficient to keep the industry alive seems to be the most that is hoped for.

It is obviously impossible that employees should be worried about this situation when they do not know that it exists. Meantime, wages and taxes keep on increasing, and additional billions are poured into competing agencies of transportation, while the average railroad rate per ton-mile tends regularly downward.

The plain fact is that the railroad industry is wasting away—not only as a remunerative business, but also when viewed from the standpoint of its physical plant. On the Central of New Jersey alone, the following facilities and services have been abandoned in the past three years:

2 New York freight pier stations
1 New York passenger ferry station
2 New Jersey coal dumping piers
Sandy Hook steamer route
A portion of the Seashore branch
58 passenger trains
70 miles of miscellaneous trackage.

In the United States as a whole in the years from 1922 to 1939 over 15,000 miles of first main track were abandoned—over 6 per cent of total main line mileage. The customary concept of railway abandonments is that they are comprised largely of meager-traffic branch lines, frequently serving areas where raw materials have been exhausted. This conception is not accurate in the case of the Jersey Central, where one 6-mile line which we have abandoned was double track and equipped with automatic signals. We have another double-track line which we shall endeavor to abandon where there are over 100 movements per day, but where expenses greatly exceed the revenue. There are in this area two Class I railroads which in recent years have several times been threatened with complete extinction.

It must be clear that the railway industry cannot continue as a private enterprise unless this tendency of expenses to overtake revenues is stopped. There are those who may say that wage increases will have to cease, but I do not believe this. The earnings of employees in the railroad industry must keep pace with the earnings of employees in other industries. If not, the railroads will get the dregs of the labor market and they cannot adequately serve the public with such a class of labor. I believe in high wages, with high production to match and justify such wages. As a matter of

This article is adapted from an address presented to the New York Railroad Club on April 18.

fact, the railways have been so managed that wage increases so far granted have not completely wrecked the industry, but managements have plainly not accomplished enough in this direction to meet the requirements.

Technological improvements—heavier train loading and improved operating and maintenance practices—have not been, and obviously are not going to be, sufficient to offset the continued rise in wages and the attrition in traffic and rates occasioned by almost limitless government aid to competing forms of transportation. The active assistance and cooperation of employees will be required if the railroads are to cope successfully with the situation which confronts them. The fact of the matter is that management has done a far better job in improving methods and machines than it has done in enlisting the understanding and cooperation of employees.

For example, note the extensive demands being made on the railroads for changes in the working rules. Most of these demands represent restrictions which would curtail productivity per employee; and the management of an industry which finds itself forced to accept restrictions which decrease the industry's efficiency has failed, at least in part, to do a good job of managing the property with which it is entrusted. Such restrictive rules clearly violate the principle that what is good for the industry is good for the employees; because such rules are an attempt by employees to secure advantages at the expense of the economic health of the industry. Employees who have been given an opportunity to inform themselves on the essential facts of railway economics would not and could not demand such restrictive rules.

Profit Sharing's Advantages

The railroads, of course, are going to continue their technological progress, but experience has shown that this progress is not enough to keep pace with the adverse factors which are closing in upon them. Where else can they look for the improvements in performance so urgently required than to the field of human relations? This is where profit sharing comes in. The principal advantages of profit sharing, to employees and owners alike, may be enumerated as follows:

1. It gives everybody working for a railroad a definite stake in its prosperity, giving concrete meaning to the contention that there exists a "community of interest" between employers and employees. It gives labor a tangible inducement to increase its productivity, rather than putting a premium on reducing efficiency through such methods as "featherbed" rules.

2. It will stimulate the employee's interest in being better informed about his industry. Today, as the *Railway Age* opinion survey has shown, 73 per cent of employees are satisfied with their present information about the railroad industry. They would not be so easily satisfied if they had a tangible and immediate financial interest in the industry's earnings.

3. It would align the political voice of 1½ million railroad employees and their families in a lively concern for the kind of treatment accorded to the railroads by politics. The *Railway Age* survey showed that only 61 per cent of railroad employees had ever heard of federal aid for highways and airways and that, of this 61 per cent, more than half thought such aid was a "good idea." I am not advocating the formation of a "pressure group" to secure political advantages for the railways to which they are not in justice entitled. But surely there would be nothing anti-social in railway employees using their political power in such a way as to prevent their means of livelihood from being unjustly taken away from them. There is nothing that a politician respects more than a voter. Six million voters keenly alive to the legitimate interests of the railroad industry would command a great deal of respect.

As it is now, the failure of the railways to have any considerable body of voters defending their interests makes the industry a prey to opposing pressure groups. The repeal of land grant rates —the justice of which was almost unanimously acknowledged—was held up for at least a year, at a cost to the railroads of many millions of dollars, by the lobbying activities of a small group of government clerks whose interest in the retention of the land grant rates lay wholly in the fact that computation of these rates provided jobs for them.

In the state of New Jersey recently, a Jersey Central bridge over the Hackensack river was put out of commission when a coal vessel collided with it. Under existing federal legislation, the War department insists that the bridge be rebuilt with a much larger movable span than the old bridge had. The federal government is prepared to pay most of the cost of this improvement—about $4 million—but, according to existing New Jersey tax laws, the railroad would be forced to pay additional taxes, not only on its own investment in this bridge, but on the expenditures made on the structure by the federal government as well—improvements in which the railroad has no interest whatsoever. The obvious injustice of such taxation of the railroad was so clearly seen that both houses of the New Jersey legislature passed, without a dissenting vote, a bill to relieve the railroad of such taxation, but the governor of the state vetoed this measure. I do not believe such a bill as this would have been vetoed if railroad employees in the state were politically conscious of their interest in the matter.

Effect on Railroad Credit

4. By emphasizing the necessity of meeting fixed charges, a profit sharing plan should tremendously improve the credit of the railroads, and enable them to secure capital on favorable terms, further enhancing the probability that future operations would be profitable.

5. It should make it easier for the railroads to provide steadier employment and make progress toward the union objective of an "annual wage."

6. It should assure the adequate physical condition of the property, thus promoting improved service to the public.

7. By its contribution to improved railway credit and consequent ready availability of money for capital improvements, it should promote the ability of the railways to compete with rival agencies of transportation.

8. It could scarcely fail to draw favorable public attention to the railroad industry, as one standing in the forefront of efficiency and enlightened labor relations. I might summarize all these advantages by saying that I believe there is an untapped reservoir of profits in the railroad industry which profit sharing would make available and which can be made available in no other way.

The Central of New Jersey has had some experience with a practice akin to

Inter-War Trends of Earnings and Expenses

	1939	1922	% Change
Revenue ton-miles	333 billion	339 billion	− 2
Freight revenue per ton-mile	0.97¢	1.18¢	−18
Average wage per hour	74.9¢	61.3¢	+22
Railway tax accruals	$ 362 million	$ 308 million	+18
Net railway operating income	$ 596 million	$ 769 million	−22
Investment	$24,684 million	$20,580 million	+20
Rate of return on investment	2.41%	3.74%	−36
Debt outstanding	$10,707 million	$10,528 million	+ 2
Equity investment	$13,977 million	$10,052 million	+39
Net income	$ 141 million	$ 434 million	−67
Rate of return on equity	1.01%	4.31%	−77

Increase in investment, 1939 over 1922	$4,104 billion
Decrease in net railway operating income	$ 173 million
Per cent return on increase	less than zero
Increase in equity investment, 1939 over 1922	$3,925 million
Decrease in net income	$ 293 million
Per cent return on increase	less than zero

profit sharing, in the operation of its Pier 18 at Jersey City. This pier handles coal from cars into barges. Wages formerly paid were below the standard for similar work on other piers in New York Harbor. By agreement with the employees, management established an incentive system of payment, whereby employees on this pier were to receive increased payments corresponding to the increase in coal dropped over the pier. The result has been that the cost per ton of coal dropped has declined, while employees have received more money, and more traffic has been attracted to this pier. While incentive wages are not the same thing as profit sharing, there are many similarities and our experience at Pier 18 gives some hint at what might be expected if all employees were given inducements to improved performance.

Criticisms of profit sharing may be enumerated as follows:

1. It brings about variations in wage scales on different railroads. While this observation is true, earnings of employees on different railroads vary considerably even under identical rules.

2. The objection is made that unions would be given a voice in management, but I see no objection to this. I do not believe that a system of profit sharing can be instituted on a paternalistic basis, but only by agreement with the interested organizations. If I were working for a board of directors instead of for a trustee I should be very greatly pleased to have intelligent and sincere representatives of employees among the directors to whom I should report.

3. Uncertainty as to wages to be paid employees, it is said, would give rise to difficulties in securing rate adjustments from the I.C.C. While variations in these payments might somewhat complicate the problem, I cannot see that they impose any insuperable difficulty.

4. Some stockholders may oppose increased payments to labor while, in many instances, they themselves have gone without any return whatever for many years. This would be a valid objection if the profit sharing plan had as its purpose *only* increasing the payments received by labor—but the purpose of profit sharing is to increase the return received by everybody in any way connected with the railroad business; and I do not believe that there is an especially favorable outlook for stockholders unless the active cooperation of employees can be secured.

Unless we can bring about the greater cooperation of railway employees in improving the efficiency of railroad operation and in removing the railroads from the category of industries which "have no vote," I believe that the long-run future of the railroad industry is very doubtful—once the effects of the war have worn off. We shall have to face a period of increased competition, erosion of traffic and rates, continued heavy taxation, and constant demands calculated to increase our labor costs. I do not believe that adequate railroad service for the American public can be financed by private capital under such conditions; so the ultimate outcome is likely to be government ownership and operation. This certainly would be to the disadvantage of railway patrons, railway owners, railway managements, and railway employees as well—since, under such conditions, the wage of labor would probably be frozen as it is in the Post Office department. It seems to me that the enlightened self-interest of both capital and labor in the railway industry should impel them to take the necessary steps to avoid such an outcome.

* * *

Signal Program on Canadian Pacific

(*Continued from page 866*)

When the locomotive passes the "Block" sign, thus shunting the track circuit, if no train is approaching on the main track, then the main-track signal 07 is set to the Stop aspect, and then the dwarf 07B takes over the controls formerly applying to 07. A time-element relay introduces a delay of 20 seconds between the change-over of controls so that if a westbound train on the main track is about to enter the track circuit in approach to signal 07, it will hold the main track signal 07.

The only interlocking on the 250 miles between Chapleau and Schreiber is at Franz, where there is a crossing with the Algoma Central & Hudson Bay. As part of the improvement program the old 20-lever mechanical interlocking at this crossing was replaced by a modern all-relay electric interlocking which is controlled by a new panel type machine on the operator's desk. This plant includes a new electric switch machine on the east end of the Canadian Pacific siding, west of the crossing.

At Chatham, Ont., on the Windsor subdivision, where there is a crossing with the Pere Marquette, the old 32-lever mechanical interlocking was replaced by an electric interlocking using all-relay controls and a new panel type machine. The new electric switch machines at Chatham are the Model 5D with dual control. The signals are the searchlight type to replace the old semaphore, some of which were operated by wire-pull lines. Thus the replacement is complete, and nothing remains of the old plant but the tower.

The automatic block signaling material installed on the White River and the Windsor subdivisions was furnished by the Union Switch & Signal Company, while the materials installed on the Heron Bay subdivision, as well as the interlocking equipment at Franz and Chatham, was furnished by the General Railway Signal Company. The installation of this automatic signaling and these interlockings has been handled by the Canadian Pacific under the direction of E. S. Taylor, signal engineer, Canadian Pacific, Eastern Lines. On the Windsor subdivision, for example, the field forces were under the supervision of R. I. Becksted, signal supervisor, and P. C. Cameron, general signal foreman.

COMMUNICATIONS . . .

South American Gages

NEW YORK

TO THE EDITOR:

Your editorial on South American markets for railway equipment and materials in the *Railway Age* of February 9, 1946, page 314, is very apropos.

There is one sentence, however, which may be misinterpreted. You say, "the railways of South America do not have standard gage track," that is 4 ft. 8½ in. Many of them do not, but the railways of Peru, Paraguay and Uruguay do have it almost exclusively, and there is a good deal of 4 ft. 8½ in. gage in Chile, Argentina, Cuba, Brazil, Panama and some others.

FRED LAVIS

Steam Rates for Locomotive Rating

PHILADELPHIA, PA.

TO THE EDITOR:

In connection with A. I. Totten's article dealing with steam locomotive ratings, and discussions of principles involved in the establishment of normal steam locomotive output, which appeared in the October 13, 1945, *Railway Age*, I would suggest that instead of a constant rate of 17.8 lb. of steam per cylinder hp.-hr., the adoption of a variable steam rate ranging from approximately 26.4 lb. of water per hp.-hr. at 13.5 m.p.h. down to 17.8 lb. at 81 m.p.h. and faster.

The piston speeds, shown in Table III should then be revised as follows:

Speed, m.p.h.	Piston speed, ft. per min.
13.50	306
16.88	382
20.25	460
23.63	537
27.00	612
30.38	688
33.75	765
37.13	842
40.50	918
47.25	1,070
60.75	1,377
67.50	1,530
81.00	1,835

At 91.4 m.p.h. the locomotive would have

a piston speed of 2,073 ft. per min., which approaches the speed at which the conventional type steam passages, ports and cylinders would limit the amount of steam that could enter and leave the cylinder to maintain the speed.

THOMAS H. FAWCETT

Sealed Firing-Up Equipment

BURLINGAME, CAL.

TO THE EDITOR:

Referring to the annual report of the Bureau of Locomotive Inspection and also to your editorial, both appearing in the *Railway Age* of February 9, 1946, which called attention to the considerable loss of life and property in connection with the failure of locomotive crown-sheets, due to low water.

Although the number of accidents chargeable to "low water" has been reduced in recent years, it is thought that they may be reduced still further if the locomotive crew were assured that the fire could be "knocked out," and a new fire built quickly.

The natural desire of the locomotive crew is to maintain the train schedule as closely as possible, which they know is difficult if they are compelled to build a new fire with the unsuitable material now generally used.

It is therefore suggested to equip coal-fired locomotives with the necessary oil-fired kindling apparatus, to be sealed; and the seal to be broken and the device used only to build fires when the locomotive is on the road—this apparatus to be about the same as used in a number of engine-houses, which greatly reduces the time required to get up steam. Of course, this would not overcome the trouble with defective apparatus, such as gage cocks, injectors, etc., but it is believed that the crew's knowledge of the fact that the fire could be restored in less time than it takes at present, would result in their giving more prompt attention to these parts. This may also give them the opportunity to ease the throttle and to get water over the crown-sheet—all in the minimum time—which may prevent, in some cases, a boiler explosion.

Of course, it is realized that the cost involved in equiping and servicing the oil-firing equipment on a large number of steam locomotives would amount to quite a little, but it is believed it would be well worth the extra expense.

JOHN L. MOHUN

Quarterly Dividends

NEW YORK

TO THE EDITOR:

Railroads need good will and they need it more than ever in this time of short tempers and hasty political action. Public opinion is the railroads' greatest asset—even more important than current assets.

One of the most important ways to purchase widespread good will is to pay regular quarterly dividends to the owners of the equities.

Santa Fe, Union Pacific, Atlantic Coast Line, C. & O., L. & N., Southern Pacific, Southern Railway pay regular quarterly dividends, but there are a number of reorganized roads and former "border line" roads which do not.

A reason given by some roads is that current accounting would be too difficult or that current results are not known in time. This overlooks the fact that dividends can be declared this year from last year's earnings and paid quarterly. It costs a few pennies more to pay quarterly but every cent spent in this manner on public good will is a first rate investment.

The shareholder and his wife desire dividends to arrive quarterly as much as the wage earner's wife desires the take home wages to come in weekly. As a security analyst I plead with the railroads for observance of this simple rule for good will. Pay dividends quarterly.

LANCASTER M. GREENE

NEW BOOKS . . .

The French Railroads and the State, by Kimon A. Doukas. 272 pages. 8¾ in. by 5¾ in. Bound in cloth. Published by the Columbia University Press, New York 27, N. Y. Price $3.50.

That too many cooks often spoil the broth does not seem to apply in all aspects relating to the history and development of the French railroads. In tracing the background and growth of the rail system in France from 1823 through 1937, the author finds that the French experience in solving the problem of private railroad ownership versus public operation must remain "of doubtful value." He adds that neither public nor private operation of railroads in France was successful enough over a sustained period of years to prove a single statement from the financial angle or to teach a single lesson from the point of view of management and labor and that the very growth and development of the French rail industry makes the assertion self-evident.

The author also contends that the mixture of statism and private industry has compounded into the creation, ownership and management of the French railroads a great deal of looting, refunding and reorganizing that has cost the taxpayers billions of francs and has kept railroad finances in constant flux, often bordering on chaos. However, in spite of such difficulties, Mr. Doukas claims that the "statism-plus-private industry" partnership succeeded in building an adequate network of rails in France, which, as of January 1, 1937, totaled 40,112 miles of track.

The author praises the monopolistic structure and operation of the French railroads in that it has eliminated certain costs and wastes, which, he declares, "seem by far to outweigh any conceivable advantages of competition." He adds that duplicate schedules and services, excessive trackage, discriminatory practices between shippers and localities, rival terminal facilities and privileges, promotion of indirect routing and scattering of traffic over a multitude of routes—practices he claims to be too prevalent in the United States—have been conspicuously absent from French operation. He claims that through the grant of monopoly interline competition, overlapping service and intra-company feuds were discouraged and prohibited, resulting in the reduction to a minimum of the useless waste of physical resources.

"It must be conceded," Mr. Doukas concludes, "that the railroads of France have operated for over a century as an integral and indispensable part of her national economy, of her civilization and of her way of life. Whatever faults or virtues are ascribed to her national economy as a whole must necessarily be assigned to her railroad industry as well. Its nationalization in 1937 was more in the nature of a unification of operation than, as commonly understood, of a socialization scheme. Final ownership and operation by the state was postponed until 1983.

"World War II has interrupted the natural course of the original plan, but paradoxically enough, it has hastened the adoption of the ultimate solution provided by the 1937 experiment. For it is believed that as soon as peace is established in Europe, the French will proceed with the nationalization of all enterprises clothed with public interest."

Two-Way Radio, by Samuel Freedman. 506 pages. 6 in. by 9 in. Illustrated. Bound in cloth. Published by Ziff-Davis Publishing Company, New York, N. Y., and Chicago, Ill. Price, $5.00.

This book describes the mechanics and applications of two-way radio for all forms of fixed, mobile and portable communications. It is presented in non-mathematical form and in simple language, fully understandable to persons using or intending to use such facilities.

In writing it the author has drawn on his experience which dates from the time of spark transmitters and crystal receivers. He began his career with the Postal Telegraph Company, and has worked as a ship operator with the Marconi Wireless Telegraph Company. He has designed and made numerous installations of two-way radio systems for public agencies, including police and forestry services, and has served twelve years in the United States Navy as a radio specialist. He is now a commander attached to the U. S. Navy Electronics Laboratory, at San Diego, Calif.

Equipment described in the book ranges from 5 kilocycles to beyond 10,000 megacycles. Also included is a thorough description of induction radio and carrier current communication techniques. A ninety-page chapter on two-way radio for railroads deals with problems peculiar to railroad radio, with the uses of radio for railroad operation, with radio as a safety device, with train power supply, and describes various types of radio and inductive communication systems designed for railroad service. The possibilities of microwave communication for railroad application are also discussed at some length.

Other chapters in the book deal with basic requirements and characteristics of radio equipment and with police, highway, marine and aircraft, and personalized applications. There are also chapters on maintenance and repair, and licenses and regulations.

GENERAL NEWS

Planning Body Would Foster Air Transport

Favors parcel post service and transfer to planes of all first class mail

The dispatching by air, without "surcharge," of all domestic first class air mail where deliveries will be expedited, and the inauguration of air parcel post at postage rates having "a proper relation to the ton-mile cost of the transportation" was recommended in a report on "National Policy for Aviation," which was released this week by Advisory Committee on the Aircraft Industry of the National Planning Association. N. P. A., established in 1934, describes itself as an "independent, non-political, non-profit organization, devoted to planning by Americans in agriculture, business, labor, the professions and government." In a statement accompanying the report, the association's board of trustees, while not endorsing the committee's recommendations in detail, "finds itself in general agreement with the principles set forth by the committee."

The committee, asserting that "burdensome taxation of air transportation by individual states should be avoided," also recommends supervision of air carriers solely by the federal government, adding that "there should be no attempt by the states to segregate any intrastate aspects thereof for purposes of safety or economic regulation."

Would Subsidize Experiments—"Local inter-community air transportation services should be encouraged where such services appear likely to approach self-support in a reasonable length of time," the committee said. "Such encouragement might be afforded by subsidizing one or two local experimental services in each of the major areas of this country. Initial subsidies should be on a sufficient scale to insure a sound operation, but the subsidy arrangements should be subject to review at the end of a reasonable period.

"In view of the accelerated development that is now taking place in methods of propulsion and structural design of transport planes, government regulation of rates and profits of air carriers (including the amount of depreciation allowed for tax purposes) should be administered in such a manner that carriers will be financially able to replace their flying equipment promptly, as more advanced designs become available."

According to the report "it is difficult to predict, with any degree of precision, the extent to which the elimination of the surcharge on domestic air mail would reduce the revenues of the Post Office Department, but that there would be some savings in payments to railroad carriers, resulting from the transfer to the airlines of much of the mail now carried by the railroads," was pointed out.

"It is not unreasonable to suppose, however, that domestic first class mail, taken as a whole, with adequate compensatory payments to the airlines and railroads alike for services actually rendered over their present systems (and continuation of air mail subsidies to those few of the present domestic airlines that still need them), would continue to show a profit to the Post Office," the committee continues. "If this is so, the recognized responsibility of the Post Office to handle mail with the greatest dispatch consistent with sound economy should be decisive of the question of 'all first class mail by air'."

Higher Rates for Parcel Post—The committee, headed by William A. M. Burden, assistant secretary of commerce, added that consideration should be given to the establishment of air parcel post, the substantial benefit to be derived from such a service being the reaching, through the post offices, of points not now served by air express.

"We do not believe that this form of cargo could be handled at charges materially less than those for air express," the committee said, "and consequently air parcel post charges would have to be considerably higher than for ordinary parcel post. The principle of air mail without surcharge accordingly could not be extended to this field; however, rates should be set at a level which will bear some reasonable relation to the cost of transporting the entire weight of passengers, property and mail carried in the plane.

"In a recent decision of the Civil Aeronautics Board affecting the four largest domestic airlines, mail rates were based on an over-all cost of 45 cents per ton-mile for all classes of traffic. A somewhat higher figure presumably would have to be used as the basis for domestic rates generally. If air parcel post rates to the public can be set low enough to attract one-half of the surface parcel post volume moving over 400 miles, then the airlines will have a total mail volume about five times that already suggested if only all first-class mail were to be airborne. Additional aircraft, probably flying special schedules, would be required to handle this traffic."

The board of trustees, meanwhile, asserted that "our aviation policies—or lack of them—will affect vitally international security and the economic development of the nation and the world. In planning for aviation, we should recognize that we have entered the air age and should aim at its most rapid development."

Post Office Ready to Speed Schedules

Sullivan assures railroads it is too soon to dig grave of rail mail service

The Post Office department stands ready to make reasonable concessions in the interest of faster train service, Robert E. Hannegan, postmaster general, told the Association of American Railroads' committee on mail transportation at a dinner in Chicago on April 23, given by the Association in connection with a national conference of railway mail officers and railroad executives.

The address was read by Gael Sullivan, second assistant postmaster general. He declared: "Already the railroads have facilities which will give the nation faster train service than is now scheduled. Both the railroads and the Post Office are here to readjust their procedures so as to put those faster rail schedules into effect, and to have railway mail share their benefits to the fullest. If more rapid train service demands reasonable concessions from us we will make those concessions all the way down the line, and in hundreds of instances. We are going to be sensible enough to see beyond the mail car."

Mr. Hannegan accused certain "timid souls" of having dug a "statistical grave" for the railroads on the basis of their fears that air transport will soon capture all of the roads' mail traffic. Railroad men, he said, do not share this belief and are, in fact, preparing to meet the competition of the air lines. Concerning the diversion of first-class mail to the air lines, Mr. Hannegan said that in theory the railroads would lose revenue of $22 million a year if all first-class mail could be diverted. However, he said that much of such mail must receive a rail haul for a portion of its journey and that if such a proposal were adopted the loss in railroad mail revenues would be about $12 million annually if uncompensated by other factors. In this respect, he said that the experience of the Post Office has been that every time the mail service is improved or the charge reduced, the volume increases, so that he would expect, by such a move, an increased volume of such mail from which the railroads would benefit.

Fred G. Gurley, president of the Atchison, Topeka & Santa Fe, also addressed the meeting, declaring that in 1944 the railroads handled 403 million pounds of first-class mail, or more than 92 per cent of the total, for which they were paid $21 million or less than 43 per cent of the total payments for transporting first-class mail. By way of contrast he said that the airlines

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N. I. T. League Wants Hearing on Rate Plea

Would made it "expeditious" however; Henry on the "inflationary" effects

Denial of that part of the railroads' Ex Parte 162 petition which would make the proposed 25 per cent increase in freight rates effective May 15 in advance of hearings has been asked by the National Industrial Traffic League in a reply filed with the Interstate Commerce Commission. At the same time the League stated that shippers are in "full sympathy" with the railroad suggestion that there should be a "speedy determination" of the issues, and thus the reply favored "early hearings" at the "first available date which will enable necessary preparation to petitioners and others."

More specifically, the reply said that the League "invokes expeditious hearings along the lines followed on previous occasions under Ex Parte 115, Ex Parte 123, and Ex Parte 148." It also suggested that the mode of procedures adopted for the case should enable all interested parties to participate without the formality of intervention.

Looking over the railroad petition, the League found that it contained "general and impressive averments" as to increases in railroad costs and as to the outlook for traffic and earnings. And while the League recognized the "paramount importance of keeping the railroads solvent and the sound wisdom of the national [transportation] policy," it nevertheless asserted that the railroad averments "are not self-proving" and that "there are grave questions of the direct and indirect effects of the substantial increases proposed."

It was also stated that the League's membership has had no opportunity to consider the proposal, that being the purpose of the special meeting scheduled for May 7 at Chicago.

"Inflationary Effect" Deflated—Meanwhile, Robert S. Henry, assistant to the president of the Association of American Railroads, has recently called attention to the latest available figures as to the part which railroad charges play in the cost of commodities, his comment being prompted by references to the "supposed inflationary effects" of the increase sought.

"The latest official study on the subject, made by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission, was for the year 1941," Colonel Henry said. "At that time the commission found that the total freight charges of the railroads amounted to 7¼ per cent of the estimated value at destination of the commodities transported, value being based upon wholesale prices.

"Railroad freight rates today are still on a 1941 level, while wholesale prices generally are more than one-third higher than the prices of 1941. What percentage present-day freight charges are of retail prices, I do not know, but obviously it is considerably less than the percentage of wholesale values.

"The freight rate increase proposed would not produce as much additional revenue for the railroads as the increase in their expenses due to rising prices and rising wages since the beginning of the war. It is estimated that if the proposed increases could have been in effect for the entire year 1946, which obviously they could not, they would have produced slightly less than $1,000,000,000 in additional revenues. Over against this there is the fact that increased wage levels, averaging nearly 48 per cent since the beginning of the war in Europe, will cost the railroads $1,355,000,000 in 1946, while increased prices of materials and supplies which railroads must buy will add an estimated $500,000,000 a year to their expenses.

"If there is any inflationary effect from increased freight rates, it is far smaller than is commonly realized. Any one looking for the source of inflation would find it not in railroad freight rates, but in the increase in railroad costs, along with all other costs, resulting from the rising levels of wages and prices."

M. R. S. Veterans Organize

Veterans of the Military Railway Service are organizing the "Military Railway Service Veterans"—membership being open to "any person who served honorably with the Military Railway Service, regardless of grade or rank." Persons whose entire military service (exclusive of basic training) was spent in the M. R. S. will automatically be designated to the honorary rank as "members, headquarters company," but their voting privileges will not be different from those of other members.

The local lodges will be designated as "battalions," and there will be regional chapters known as "railway grand divisions." The board of directors of the organization will be called "Headquarters, Military Service Veterans," and the president will bear the title of "Director General."

Dues are to be $1 per year. It is planned, also, to organize an auxiliary to the M. R. S. Veterans, to include as members the mothers, wives and sisters of the veterans. Pending completion of organization, Major General Carl R. Gray, Jr., is acting director general of the association. Information as to membership may be obtained by those who are eligible by addressing S. R. Beggs, acting assistant director, 275 East Fourth street, St. Paul, Minn.

Trans-Canada Air Lines Open New Traffic Offices

Trans-Canada Air Lines have established regional traffic headquarters at Montreal, Toronto and Vancouver in line with the company's new organization plans under which its traffic administrative functions will be de-centralized, according to an announcement by G. R. McGregor, general traffic manager. These offices have been opened in order to cope with expanding services and in anticipation of future, domestic, international and overseas activities.

Fact Finders Follow Arbitration Pattern

Emergency board recommends 16 cent wage increase; also a few rules changes

Fitting its decision to the pattern fixed by the recent arbitration awards, the emergency board which investigated the controversy involving wage and rules demands of the 200,000 train and engine service employees represented by the Brotherhood of Railroad Trainmen and Brotherhood of Locomotive Engineers has recommended that those employees, too, be given a wage increase of $1.28 per basic "day" or 16 cents per hour, retroactive to January 1. With respect to the rules phase of the proceeding the board found that except for a few recommendations it could, in the limited time at its disposal, do nothing other than remand the controversy to the parties for further negotiation.

The report was submitted to President Truman on April 18, and made public by the White House on the afternoon of that day. Members of the board were Chairman Leif Erickson, Frank M. Swacker, and Gordon S. Watkins. It was created by President Truman on March 8 after the B. of R. T. and the B. of L. E., which refused to join the arbitration proceedings participated in by the other three train service brotherhoods and 15 non-operating unions, had taken a strike vote and set March 11 as the date for the beginning of their members' withdrawal from service. The wage demand was for a 25 per cent increase with a minimum raise of $2.50 per basic "day."

Cost to Carriers — When the recent arbitration awards were announced, it was anticipated that the emergency board's wage recommendation would call for a like increase. Thus the cost of adopting such a recommendation was included in railroad estimates that their annual wage bill will be increased $619,000,000. The few rules recommendations of the board are not sufficiently definite to provide the basis for an estimate as to what their adoption would cost the carriers. Rules were not involved in the arbitration proceedings.

In making its wage recommendation conform to the arbitration awards the board accepted the view that those awards fixed a pattern "binding upon this board." It noted that the arbitration awards applied to 85 per cent of the industry's employees, adding that any attempt to make a different award to the employees involved in the emergency-board proceeding would create "inequities within the industry itself and would result in demands by the other groups of employees of the industry for an equalization."

No Allowance for "In Lieu"—At the same time the board found that it also reached the 16 cents per hour via the cost-of-living route. "The basic average wage of the group of employees here involved in January, 1941," the report said, "was 89.9 cents per hour. By the 1941 wage award they were accorded an increase of 9½ cents per hour, and by the 1943 award four

cents per hour, making a total of 13½ cents, which was the 15 per cent allowable under the Little Steel formula. This leaves a balance of 18 per cent under the present 33 per cent cost-of-living formula available to them which, applied to the 1941 base, equals 16 cents per hour."

This calculation was questioned by the carriers on the ground that it gave no consideration to the "in lieu" adjustments amounting to five cents per hour made by the late President Roosevelt in December, 1943. In rejecting that contention, the board pointed out that the allowance was made by the President "on top of and after exhaustion of the Little Steel formula." It added that "to include it now in the calculation of the cost-of-living formula would have the effect of taking the award away."

The wage section of the report also discussed "cents-per-hour vs. percentage wage adjustments," the board there expressing its "considered judgment" that in the future "the interests of management and labor will be best served by a return to percentage wage adjustments designed to maintain essential wage differentials resting on differences in such factors as skill, responsibility, and the assumption of risks." Thus the board "was not indifferent to the brotherhoods' plea that the wage adjustment should be on a percentage rather than a cents-per-hour basis," but it "labored under the necessity of conforming to recent and current wage adjustment patterns based on changes in the cost-of-living index and considerations of wage stabilization."

Seven "Days" in One—The report disposes of the rules controversy by discussing only 15 of the 44 rules changes proposed by the brotherhoods and only four of the 15 suggested by management. "Generally," it said, "the proposals of each side are extreme. Some of those of the organizations would result in seven days' pay for one day's work; and, indeed, by combinations of proposals, even multiples of that. Some of those of the carriers would abolish with one stroke the rights of the organizations acquired after half a century of effort through negotiation, arbitration, commissions, emergency boards, et cetera. Doubtless both sides made their proposals far-reaching for trading purposes."

First of the employee rules demands discussed specifically was the proposed change in the rule relating to overtime in passenger service. The unions seek a rule which provides that on short turn-around passenger runs no single trip of which exceeds 80 miles, overtime shall be paid for all time actually on duty, or held for duty, in excess of six hours within eight consecutive hours and also for all time in excess of eight consecutive hours. Thus the proposal in effect calls for a "six-within-eight-hours" rule instead of the present "eight-within-ten-hours" rule. The board recommended that the parties "immediately negotiate a new rule designed to reduce the breadth of spread of the short turn-around assignments and accelerate the beginning of overtime." It expressed its confidence that "there is a practical middle ground upon which the parties may agree to accomplish this purpose."

It also recommended adoption of a change in the rule covering motor or electric cars in multiple unit passenger service to provide that engineers or motormen operating such cars "shall receive payment based upon the minimum rate for operating one unit and shall receive the rate stipulated for the next higher rate specified in the next higher bracket in rates provided in rate schedule for each additional motorized unit operated."

Likewise would the board have the railroads adopt the employees' proposed change in the "yard service—overtime" rule. This would extend to extra men the overtime-pay arrangements accorded regularly assigned men in yard service. On the demand for a rule stipulating that road trainmen in miscellaneous and unclassified services be paid not less than the local freight rate, the board would have the carriers go part way. It recommended that "appropriate rates be negotiated on individual roads, taking into consideration the particular or special circumstances of the work performed." On the unions' demand for a rule making the daily basic rate for yard conductors (foremen) not less than $1.50 more than the daily basic rate for yard trainmen, the board recommended that the differential ("at present widely standardized at 52 cents") be made 85 cents per day.

Proposals Remanded—The new initial-terminal-pay rule proposed by the brotherhoods would give train and engine service employees overtime (in addition to road trip pay) for all initial-terminal time in excess of 15 minutes, computed from the time the employees were required to report for duty to the time of the train's departure. Finding that present practice "tends to lead to abuse," the board recommended that the parties find a middle ground between the 15-minute proposal and some existing rules which provide for 1½ hours of preparatory time. Accordingly, the rule was "remanded to the parties for further handling in the light of these observations."

Also remanded to the parties was the proposed new "conversion rule" which would stipulate that crews in all classes of road service be paid local freight rates when required to pick up, set out, perform station switching, or load or unload freight or company material. Here, however, the board did suggest that a rule might be adopted to provide that crews be paid local freight rates if they are required to pick up or set off at three or more points, or if the time consumed in such work exceeds 1½ hours in the aggregate of the trip, or when the crew is required to unload l. c. l. shipments or to do station switching.

With respect to several proposed changes in the rule regarding employees held at other than home terminal, the board recommended only that the present rules be amended to eliminate the coupling of held-away-from-home time with service time, and that they be paid for separately. Because the proposal would be "tantamount to an invasion of managerial prerogatives and functions," the board rejected the demand for a rule which would have required specified pilot service. It did say, however, that "whenever pilot service is used it is reasonable to require that such pilot shall be chosen from the seniority roster of the district involved and we recommend accordingly."

The board recommended adoption of the unions' proposed "automatic release" rule which would provide that "crews arriving at terminals are automatically released, except as provided in short turn-around service or other rules applicable; if used again they begin a new day." As to the proposed rule stipulating that engineers and firemen "shall not be required to flag or throw switches," the board recommended adoption with the following addition: "Except for their own trains and then only when no one else is available for the purpose."

Without accepting the language of the "assistance for firemen" rule which the unions proposed, the board recommended adoption of a rule "designed to accomplish the purpose of furnishing coal of appropriate size and assuring that it shall be kept within reasonable reach of the fireman from the deck of the locomotive." The report added that it was not the board's intention "to modify the prevailing practice, which appears to be that at terminals coal is placed on the tender by coaling station attendants and elsewhere where such attendants are located, but where no attendants are available to have the fireman take on coal."

Watches at Cost—On the matter of watch inspections, the board recommended adoption of that part of the union proposal which would require railroads to supply watches at cost to train and engine service employees, and pay for the cleaning and repairing of watches. It did not go along on the demand for pay at the pro rata rate (minimum of two hours) for time consumed in having watches inspected. Instead it suggested that the new rule provide for inspections "on company time."

On the demand for a rule providing that uniforms be furnished, cleaned and pressed without cost to employees, the board went half way, recommending adoption of a rule requiring the carrier and employee to share these costs equally.

The foregoing rules recommendations were made applicable to roads represented by the three carriers' conference committees. "There is," said the report, "insufficient evidence before the board regarding the operating conditions surrounding the individual short lines, those represented by the American Short Line Railroad Association, those who appeared specially and those who made no appearance, to enable the board to reach a conclusion as to the extent the recommendations are applicable to them and it is suggested that that question be the subject of negotiations between the organizations and those lines individually."

The proposed new time limit on claims and grievances was the first of the carrier rules proposals which was discussed in the report. Generally, the proposal would allow 30 days after occurrence of a grievance for filing of the initial claim; and six months after all procedures on the property had been exhausted for the institution of a proceeding before a tribunal established by law or agreement. The board called the carriers' proposal "quite meritorious," but it suggested a 90-day limit on the filing of the initial claim. Also, it would provide that any new rule become effective 60 days after its adoption "in order not to bar matured or maturing claims under the new limitation."

An "Intolerable Situation"—With re-

spect to the carriers' proposed new rule relating to the manning of self-propelled roadway and shop equipment and machines, the board found that the railroads "are undoubtedly entitled to some relief from the intolerable situation with which they are confronted by jurisdictional controversies." At the same time it professed its inability to suggest how the matter should be adjusted since all the crafts involved were not before it.

The board recommended adoption of the carrier proposal to eliminate from rules covering monthly or daily guarantees in passenger service all language which prohibits overtime payments from being utilized with earnings from other sources to make up the guarantees. With some changes in language, it also recommended adoption of management's proposal that pay for "time lost" be reduced by earnings made in other employment during the time out of service.

The board's concluding observations concerning the rules controversy comprised a defense of the dual basis of pay, which was called "analogous to a piecework or incentive wage system." This discussion emphasized the fact that neither party to the proceedings proposed to abolish the dual basis. And while it was conceded that the dual basis "does at times operate to the disadvantage of the carriers," it was nevertheless asserted that "it is hardly accurate to characterize the system as 'featherbedding'."

The report went on to point out that operating practices and train speeds have changed substantially since the system was originally established, but in that connection the board saw a "wide area" for bargaining to the mutual advantage of the carriers and their train and engine service employees. The employees, it added, should cooperate in effecting economies, and "management should willingly compensate employees to a reasonable extent for the surrender of established privileges."

The meeting between the Carriers Conference Committee and the representatives of the labor organizations which is to consider the recommendations of the board, was postponed indefinitely from April 22, at the request of the unions, in order to give them time to discuss the report among their executives. Up to April 24, no date for the conference had been set.

Smoke Abatement Committee Surveys Durham

The Coal Producers Committee for Smoke Abatement recently completed the fifth survey since it was reactivated several months ago. The survey consisted of 120 plants in Durham, N. C., where considerable interest in the abatement of smoke has been shown. The Pennsylvania has recently joined the other railroads in committee membership.

H. B. Lammers, director of engineering of the committee, was in charge of the Durham survey and was assisted by T. J. Duffy, Chesapeake & Ohio, Richmond, Va.; U. B. Yeager, Island Creek Coal Sales Company, Huntington, W. Va.; W. R. MacMillan, Red Jacket Coal Sales Company, Greensboro, N. C.; and J. R. Claxon and L. T. Smith, both of the Louisville & Nashville, Louisville, Ky.

While in Durham, Mr. Lammers held meetings with operating superintendents of the railroads and retail coal merchants. The railroads promised 100 per cent cooperation, he reported, and the interesting fact was disclosed that already three-fourths of the yard engines used in Durham are equipped with steam air jets.

Freight Car Loadings

Loadings of revenue freight for the week ended April 20 totaled 650,743 cars, the Association of American Railroads announced on April 27. This was an increase of 1,549 cars or 0.2 per cent above the previous week, a decrease of 213,957 cars or 24.7 per cent under the corresponding week last year, and a decrease of 187,994 cars or 22.4 per cent below the comparable 1944 week.

Loading of revenue freight for the week ended April 13 totaled 649,194 cars, and the summary for that week as compiled by the Car Service Division, A. A. R. follows:

Revenue Freight Car Loading

For the Week Ended Saturday, April 13

District	1946	1945	1944
Eastern	142,607	163,846	150,649
Allegheny	129,243	183,789	177,188
Pocahontas	15,802	53,272	52,782
Southern	113,105	129,397	122,722
Northwestern	77,722	116,492	107,451
Central Western	108,597	127,522	115,671
Southwestern	62,118	72,695	72,220
Total Western Districts	248,437	316,709	295,342
Total All Roads	649,194	847,013	798,683
Commodities:			
Grain and grain products	35,296	49,759	36,978
Livestock	17,534	15,446	14,827
Coal	31,561	154,324	163,370
Coke	7,500	12,535	14,506
Forest products	43,703	41,368	43,312
Ore	9,832	58,834	47,420
Merchandise l.c.l.	130,548	114,705	104,850
Miscellaneous	373,220	400,042	373,420
April 13	649,194	847,013	798,683
April 6	644,663	765,672	787,985
March 30	809,142	836,000	786,106
March 23	804,606	816,741	777,578
March 16	799,882	816,556	785,195
Cumulative total, 15 weeks	11,026,416	11,690,915	11,815,521

Nation Faces Steel Shutdown

On April 20 Benjamin F. Fairless, president of United States Steel Corporation, issued the following statement:

"United States Steel Corporation and the thousands of manufacturing plants depending upon its production of steel today face a grave situation as a result of the prolongation of the coal strike. During the fourth week of the strike steel-making operations in U. S. Steel's largest Pittsburgh district subsidiary were reduced to 26 per cent of capacity, and in the plants of the Chicago district to 40 per cent.

"Only an early resumption of coal mining can prevent an inevitable shut-down of all steel-making operations of U. S. Steel Corporation. The rapidly increasing shortage of steel has already forced drastic curtailments in many of the nation's largest manufacturing plants and many thousands of workers are idle. In the case of U. S. Steel subsidiaries alone, 28,000 employees are already on a part-time basis because of the coal strike.

"When the strike began on April 1, the United States Steel Corporation, in common with other members of the steel industry, had just regained a level of operations which would have placed the industry in a position to begin filling the unprecedented peace-time demands for steel. Thus for the second time within a few months, a major strike has placed the nation's reconversion program in jeopardy.

"The apparent collapse of the coal negotiations in Washington is a danger signal for the country. Only an early resumption of coal mining can prevent a disastrous effect upon employment and production for a large part of America's industrial machine.

"Every precaution to conserve available stocks of coal has been taken since the first day of the strike. But, even with accelerated reduction in the rate of operations, U. S. Steel plants in the major operating districts face a complete shut-down in the near future.

"A total of 23 out of 32 blast furnaces which were operating before the coal strike, have been banked in Pittsburgh district operations of U. S. Steel's subsidiaries; 11 furnaces are out of blast in the Chicago district and more were shut down this week. At one corporation plant alone 23 open hearth furnaces have been taken out of production. The total amount of steel lost at all U. S. Steel operations since the strike began April 1 is estimated at 402,000 tons."

More New York-Boston Trains

The New York, New Haven & Hartford has announced the addition of two new Shore Line trains to its "every-hour-on-the-hour" New York-Boston schedule, effective with Daylight Saving Time, April 28. One of the new trains, the "Roger Williams," will leave Grand Central Terminal, New York, for Boston at 7:00 a.m. (Daylight Saving Time), an hour earlier than has previously been possible; the other, the "Commander," will depart from New York at 8:00 p.m., D. S. T., one hour later than the last Boston-bound day train on the present schedule. From Boston to New York the trains will leave South station, Boston, at the same hours of 7:00 a.m. and 8: p.m., D. S. T.

Milwaukee Budget to Reach $23 Million Mark

An improvement budget of the Chicago, Milwaukee, St. Paul & Pacific for 1946, involving construction and enlargement of facilities in 12 states and the acquisition of Diesel-electric locomotives, and freight and passenger cars, will reach a total of $23,000,000, according to a report issued recently by H. A. Scandrett, president of the road.

The budget includes $6,822,000 to be financed from railroad company funds for new Diesel-electric locomotives, passenger and freight cars, to apply against the $20,000,000 total cost of this equipment. To be acquired are five 6,000-hp. and five 4,000-hp. Diesel-electric passenger locomotives, and 18 1,500-hp. Diesel-electric combination switch and road engines. Passenger car orders will include coaches, dining cars, lounge cars, sleeping cars and mail and express cars. Six of the heavy-duty

Diesels and the passenger train cars will supply six full units to operate a new fast train which will begin service early in 1947 between Chicago and Milwaukee, Wis., and Seattle, Wash., and Tacoma. At the road's Milwaukee shops will be built 2,300 freight cars including box cars, gondolas, all-steel cabooses and automobile cars equipped with loading devices.

Provision is made in the budget for $2,276,000 for rail, track fastenings and ballast and an additional $2,155,000 for replacing, renewing and strengthening bridges. Additional work to be covered by the appropriation will include completion of new passenger car shop buildings at Milwaukee, installation of additional yard and industrial trackage in the Chicago area, and at St. Paul, Minn., and Milwaukee, improvements in the Minneapolis, Minn., shops, and the construction of two freight houses at Chicago and three warehouses at Seattle.

American Locomotive Raises Railroad Spring Prices

The American Locomotive Company raised its prices for all railroad springs by an average of 13 per cent, effective April 19. This was said by the company to be the first increase since the Office of Price Administration froze prices in 1941.

Waitresses Replace Men on P. M. Dining Cars

Waitresses have been employed by the Pere Marquette to serve its patrons in the road's recently established dining car service, replacing waiters formerly manning the cars when they were operated by the Pullman Company. To staff the cars, the P. M. hired 30 girls between the ages of 21 and 30, each of whom had at least a high school education and two years' experience as waitresses. The girls, all of whom live in Grand Rapids, Mich., are assigned to cars operating from that city to Chicago and to Detroit, Mich.

Prior to the installation of the service, the railway rented a dining car from another road and operated it on regular trains daily for two weeks to give the girls practical experience in handling and serving food on a moving train. Because of the housing and hotel-room shortages, living quarters at the away-from-home terminal have been arranged by the Pere Marquette.

Subsidized Competition Assayed On Radio Program

The "number one" transportation problem, according to speakers representing the railroad industry on the weekly radio business forum of the Commerce & Industry Association of New York, broadcast last week on station WMCA, New York, is "discrimination between privately-owned, tax-paying properties and publicly-owned, tax-exempt properties used for business purposes."

The speakers, discussing the topic, "What Next for the Railroads?", were John C. White, vice-president of the Pennsylvania, Carleton W. Meyer, assistant to the president of the New York Central, and Robert S. Henry, assistant to the president of the Association of American Railroads. T. J. Miley, secretary of the association, served as moderator.

"Facing competition from the airways, the highways, and the waterways—much of whose facilities are provided at the taxpayers' expense—we of the railroads must continue to pay for our own tracks, stations and yards, and at the same time contribute millions of dollars in taxes on our property for the general support of the government," said Mr. White. "We hope for eventual equity in carrying the burden, and in the meantime we must—and will—continue research, develop new equipment, and test out new methods of handling passengers and freight."

Stressing the need to "look at our national transportation policy—our State and Federal laws affecting transportation", Mr. Meyer asked: "Are they geared to the needs of the years to come? We wrote into the Transportation Act of 1940 a good statement of policy," he said, "the trouble is, we have not yet fully implemented that policy. To implement it is the first task of all who have a stake in transportation—and that means every citizen, because transportation is indispensable to everyone.

"For example, the New York Central is one of the largest taxpayers in the city of New York; consequently it is one of the largest contributors to the city's new $200 million airport. The Central is also one of the largest taxpayers of the state of New York—and thus one of the largest supporters of the state's tax-consuming barge canal.

"Private investment in railways is taxable and must be self-supporting. Many users of highway, water and air facilities, on the other hand, pay less than is necessary to reimburse the public treasury for the cost of providing facilities for their benefit. I suggest that people who use public transportation facilities should pay their way—by paying fair charges and tolls for use and a fair share of taxes for the support of government. The shipper over public ways should pay for the benefits he receives in their use, just as the railway patron pays for the use of private facilities for his benefit."

Emphasizing that "the trend is toward better railroads" rather than to increase in mileage of track or number of cars and locomotives, Colonel Henry instanced the present railroad program which "calls for the expenditure of nearly a billion dollars for improvements this year. To the passenger," he continued, "this will mean more comfortable trains, safer trains and more economical trains. To the shipper, adequate transportation suited to his needs at prices he can afford.

"But all this depends not only upon the efforts of the railroads themselves," he pointed out, "but upon other things such as volume of traffic, public policy, general economic conditions and continued investment in railroads. The railroads, like many industries, depend upon a volume of business—but also upon what public policies governing transportation will be. As an example, the public policy toward joint efforts and common understandings among carriers in meeting the transportation requirements of their customers, is very important. Conflicting interpretations of congressional intent, as expressed in the Interstate Commerce Act and in the anti-trust laws, have raised questions of policy which only Congress, the author of both laws, can answer fully and finally."

Waitresses have been employed by the Pere Marquette to staff its dining cars, which have recently been taken over from the Pullman Company

A. S. T. M. Annual Meeting

The forty-ninth annual meeting of the American Society for Testing Materials will be held at the Hotel Statler in Buffalo, N. Y., June 24-28. This meeting will include 23 formal technical sessions, the seventh exhibit of testing apparatus and related equipment, and the annual photographic exhibit. More than 150 technical papers and reports will be presented by the

country's leading authorities in the field of materials, many of them to comprise parts of symposiums.

On Monday evening, June 24, there will be a symposium on Bearings, with a symposium on Fatigue planned for Tuesday, June 25. On June 26 there will be two sessions of a symposium on Testing Parts and Assemblies, in which the Society for Experimental Stress Analysis is a joint sponsor with A. S. T. M., and on Tuesday and Wednesday there will be a two-session symposium on Oil Procurement Practices. Another symposium will cover the Properties of Metals on Thursday, June 26, and there will be a technical session on the Atmospheric Resistance of Stainless Steels, while several other sessions of the meeting will cover Non-Ferrous Metals, Plastics and Wood, General Testing Methods, and Cement and Concrete.

March Ton-Miles

The volume of freight traffic handled by Class I railroads in March decreased 19 per cent under the corresponding month of last year, according to the Association of American Railroads. Traffic in March amounted to 52 billion ton-miles, according to preliminary estimates based on reports to the association.

The accompanying table summarizes revised and preliminary statistics for the first quarter of 1946 and 1945.

	1946	1945	Per cent Decrease
January	48,241,378,000	56,808,024,000	15.1
February	a45,000,000,000	55,462,959,000	19.0
March	b52,000,000,000	64,424,041,000	19.0

a Revised estimate.
b Preliminary estimate.

Sees Continuing Shortage of Cars for Farm Products

J. C. Winter, chief of the transportation facilities division, Department of Agriculture, has found that "last fall's expectations of an easing of railroad car shortages and other war-time transportatiion difficulties by this spring have not been fulfilled as far as the movement of agricultural raw commodities and foodstuffs are concerned." Mr. Winter's conclusions appear in an article, "Transportation Prospects This Season," in the April issue of "The Agricultural Situation," a monthly publication of the Department of Agriculture.

Mr. Winter said that when the war began there were approximately 146,000 railroad and privately owned refrigerator cars, but that war-time wear and tear resulted in net retirements of more than 2,000 cars each year since 1941, with the result that today there are less than 136,000 cars, including special types not adapted to the protection of fresh fruits and vegetables.

"Heavy and continuous use of the remaining cars during the war has brought about serious deterioration," he continued, "and the current manpower and material shortages make prompt repairs a critical problem. A year ago, the number of cars held for repairs on owners' lines or in their shops was about 5,400. At the beginning of last February, it was 7,876, but the total number unserviceable on that date was probably over 10,000 as the number of cars en route to owners' shops or held for light repairs on non-owner railroads are not included in these figures."

Mr. Winter said that the production of perishable commodities, particularly fresh fruits and vegetables, has risen each year since the beginning of the war and that the present indications are that the 1946 car requirements will run at least as heavy as 1945, with some increase probable.

"Although there are about 1,000 new refrigerator cars on order and more in prospect, it is not probable that new equipment will do more than meet the retirement of worn-out cars during the current year," he asserted, "and no permanent relief, therefore, may be expected from the refrigerator car shortages of recent months until the basic trouble—lack of an adequate number of refrigerator cars—is corrected, or until sufficient refrigerator trucks can be manufactured to handle a portion of the traffic.

"A shortage of box cars for the movement of grain, grain products and other non-perishable foods has also seriously hampered the much needed movement of these commodities, the shortage necessitating preferential treatment recently of box cars used in moving wheat and other food products for export."

Mr. Winter declared that "of the box cars in service, the proportion suitable for grain and food loading has declined." He stated that during the war, box cars were used indiscriminately by heavy industry for the loading of munitions and other freight "likely to damage box car linings and floors." And he added that the number of cars suitable for transporting grain early in 1945 was down to approximately 50 per cent of the pre-war total, and that in March, 1946, only 45 per cent were suitable "or could be made so with minor repairs and coopering."

The author reported that livestock transportation equipment is adequate to meet prospective requirements "particularly in view of the current feed shortages and the smaller number of livestock expected from the farms."

"The railroad troubles have not all been because of the smaller number of useful cars in service," he continued. "Much of the difficulty has been attributed to the widespread adoption of the five-day week in industry, which has slowed the loading and unloading of cars, as well as to absenteeism and labor troubles among railroad employees.

"It should not be forgotten that many of the wartime controls requiring maximum loading of cars by shippers, penalty demurrage, limited hold and reconsigning privileges and similar restrictions are still in effect, but are necessary to enable the railroads to handle their present volume of traffic. The end of those restrictions is not in sight."

Mr. Winter said that the motor truck situation is "more promising" and that truck-part production, with the exception of battery output, has been "adequate." He also mentioned the reestablishment of domestic water service, particularly on the Great Lakes.

New Haven Trains in Collision

Two employees were killed and some 50 persons were injured in a collision between two New York, New Haven & Hartford passenger trains near Readville, Mass., near Boston, on April 21. The accident occurred at a crossover where a train running from Hartford, Conn., to Boston entered the main line in the path of a train from Boston to Providence, R. I.

F. E. C. "Gulf Stream" Replaces Its War-time "Tiresaver"

The Florida East Coast has announced that the day train in each direction between Jacksonville, Fla., and Miami, known during the war as the "Tiresaver," has been rechristened the "Gulf Stream," thus reverting to a name in use before the war. The "Gulf Stream" will operate on an accelerated schedule in connection with morning arrivals and evening departures at Jacksonville, using Diesel-electric power and featuring reserved-seat coaches.

"Powhatan Arrow" Wins $500

A retired Norfolk & Western section man, Leonard A. Scott of Dry Branch, Va., is $500 richer as a result of suggesting the name "Powhatan Arrow" for that road's new streamlined reserved-seat all-coach day train, which will begin operation between Norfolk, Va., and Cincinnati, Ohio, April 28. Ten other prizes, each of $25, were awarded for those among the 100,000 contest entries which the contest committee considered most suitable.

The departure and arrival times of the new train were published in *Railway Age* of April 20, page 831. Its equipment includes Class J streamlined locomotives, five coaches, a tavern-lounge car and a dining car. The interior decoration is in pastel blues with chrome trim, along with full-color photo-murals. The coaches have adjustable seats, individual seat lights, overall fluorescent lighting, rubber tile flooring, wide windows and modern smoking and wash rooms.

B. & O. Schedules Accelerated

Incidental to the resumption of daylight saving the Baltimore & Ohio's spring passenger train schedules, effective April 28, show a number of changes, with faster running time for several of its long-distance trains. The "Capitol Limited" between Chicago and Washington, D. C., for example, will be on the fastest schedule ever published for this run, and other trains have been speeded up from 10 to 25 minutes.

The "Capitol's" new departure time at Chicago is 4:30 p.m. (Standard Time), with a 9 a.m. arrival at Washington, the same as at present. Westbound, it leaves Washington at 5:30 p.m. and arrives at Chicago at 8:15 a.m., Standard Time. The

running time of the all-coach "Columbian" between Chicago and Washington is speeded 15 minutes in each direction, while the "Shenandoah" will leave Chicago at 10:30 p.m., instead of 10:15, arriving at eastern terminals at the same time as before.

The "National Limited," operating between St. Louis, Mo., and New York, will be on a 10-min. faster schedule eastbound and 15-min. faster westbound. The "Diplomat" between the same points will be 45 minutes faster westbound. Service to and from Detroit, Mich., by the B. & O. will be speeded, also effective April 28, with inauguration of operation over the New York Central line between Detroit and Toledo, Ohio. B. & O. trains will use the Michigan Central station in Detroit after that date, instead of the Fort Street station.

Three B. & O. Diesels Set New Non-Failure Road Record

Three Diesel-electric freight locomotives, built by the Electro-Motive division of General Motors Corporation, and operated by the Baltimore & Ohio between Cumberland, Md., and Washington, Ind., recently set a record when they completed a total of 1,058,000 miles without a breakdown. The individual records for the locomotives were 337,000, 362,000 and 359,000 miles, and extended from time of delivery to the B. & O. in August, 1943, to April 23 of this year.

An impressive part of the record was established in the two years between January 20, 1944, and January 31, 1946. During this period the locomotives accumulated perfect performance on a combined locomotive mileage of 850,299 and produced a total of 2,663,541,000 gross ton-miles without a breakdown.

Each locomotive operates a total of 11,058 miles each three-day period and is allowed a two-hour turnaround period at Cumberland and a six-hour layover at Washington.

Early Finds Railroads Ready for Big Post-War Job

American railroads will meet their major responsibility in providing transportation vital to world recovery, Stephen Early, vice-president of Pullman, Inc., said in an recent address before the Advertising Club of Washington, D. C.

He stated that the railroads already are engaged in improvements that will take almost $1,750,000,000 in additional capital expenditures over the next 2½ years despite steadily rising costs of their work.

"To catch up on their needs the railroads must have early delivery of thousands of passenger cars," Mr. Early asserted. "Already more than 2,000 are on order—almost as many as were produced in all the ten years before the war."

While Pullman-Standard Car Manufacturing Company is well along in deliveries of the first railroad passenger cars started and finished by any carbuilder since 1942, their early appearance in great volume may be delayed beyond original completion schedules, Mr. Early reported, because of shortages of raw materials and essential parts, caused by strikes and work stoppages in plants of suppliers. He said it would take months before full output capacity could be reached.

Mr. Early declared the only real shortcomings of some railroads was an apparent hesitancy to advertise their own accomplishments.

"The railroads hold proved advantages beyond the reach of their competition," he explained. "Among these advantages are admitted superiority in safety, unquestioned dependability in good weather and bad, the variety and luxury they offer in accommodations at moderate prices. In addition, there are the opportunities for relaxation and recreation, the advantages of traveling comfortably during sleeping hours and the fact that one may even carry on certain kinds of work while journeying by train."

As examples of modernized types of cars the railroads plan for their passengers, Mr. Early's talk at Washington's Hotel Statler was supplemented by a display of post-war designs perfected by Pullman-Standard. They include the play car for children passengers, an observation car that can be converted into a rolling movie theater, new type dining car, and several new types of sleeping cars.

Pullman-Standard Completes First Post-war Order

With the recent delivery of the twentieth streamlined passenger coach to the Chicago & North Western, the Pullman-Standard Car Manufacturing Company completed its first order of post-war-built railroad passenger equipment. The order was completed in 85 working days from laydown of the first car on December 17 to delivery of the last car on April 16. The coaches are being used in the North Western's "400" fleet, completely replacing heavy-weight cars in this service.

"Two Years of Grace!"

The Chicago, Rock Island & Pacific is distributing among its employees a colorful 12-page booklet entitled "Two Years of Grace!", the theme of which is that there are new opportunities to maintain high levels of traffic, and therefore of employment, open to every employee in the "chance of a lifetime" period of peak industrial and commercial activity following the end of the war.

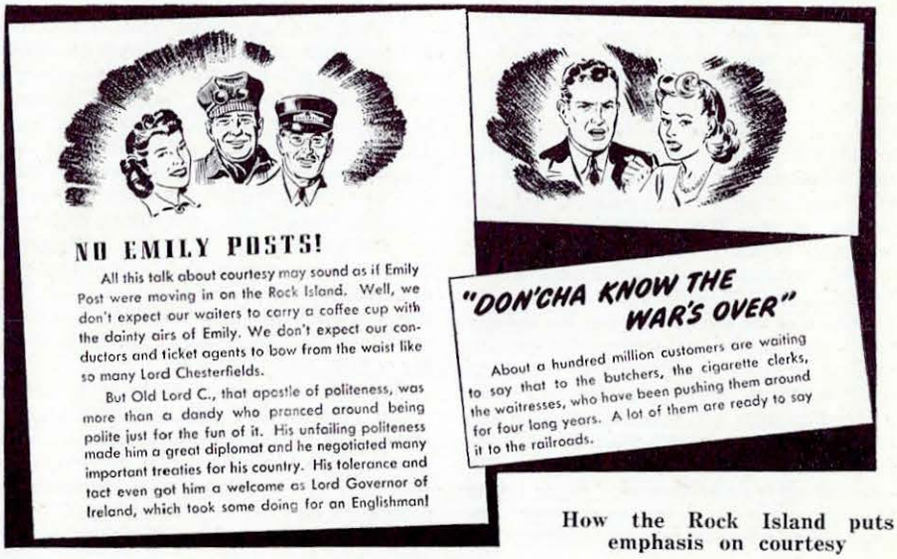
There will be a large volume of peacetime travel by rail, this publication suggests, because the railroads are in a better position to handle it now than other forms of transportation, which have greater reconversion problems. There are two ways to handle this load, it says—one is to regard it as an emergency to be brushed off as soon as possible; the other is to capitalize on the chance to convince these customers, with top-notch service and equipment and courtesy, that they should stay with the railroads when other forms of transportation are ready to offer stiffer competition.

C. & O. Calls for Pullman Car Lines through St. Louis

Continuing its campaign publicizing what it calls a "phantom Chinese wall which divides this country," the Chesapeake & Ohio this week, in full-page newspaper advertisements, asks "Why should St. Louis be a stepchild?" The "Chinese wall" that no traveler can cross without changing trains, it says, has been "cracked" at Chicago, following the appearance of a series of advertisements, but its efforts to get sleeping car service established through St. Louis—particularly between Washington, D. C., and Texas points—has "bogged down."

"The problem should not be more complicated at St. Louis than it was at Chicago," the advertisement continues. "For, instead of several stations to deal with, St. Louis has one union terminal. Some adjustments in arrival and departure times may be needed, but surely they can be worked out. And on at least one route, additional equipment is not needed because the C. & O. has offered to supply any type of Pullman cars desired by the other roads."

The situation at St. Louis is described as a "holdover from stagecoach days." The C. & O., it says, is ready to make any reasonable adjustments in the present schedule of its "George Washington," which runs from Washington to Cincinnati, Ohio, in order to set up through sleeping car service from Washington to Dallas, Tex., and Fort Worth, but the cooperation of other railroads is required.


NO EMILY POSTS!
All this talk about courtesy may sound as if Emily Post were moving in on the Rock Island. Well, we don't expect our waiters to carry a coffee cup with the dainty airs of Emily. We don't expect our conductors and ticket agents to bow from the waist like so many Lord Chesterfields.
But Old Lord C., that apostle of politeness, was more than a dandy who pranced around being polite just for the fun of it. His unfailing politeness made him a great diplomat and he negotiated many important treaties for his country. His tolerance and tact even got him a welcome as Lord Governor of Ireland, which took some doing for an Englishman!
"DON'CHA KNOW THE WAR'S OVER"
About a hundred million customers are waiting to say that to the butchers, the cigarette clerks, the waitresses, who have been pushing them around for four long years. A lot of them are ready to say it to the railroads.

How the Rock Island puts emphasis on courtesy

A statement on the subject by Robert R. Young, chairman of the board of the C. & O., was made public April 23 in connection with the road's annual meeting of stockholders. "To complete through St. Louis rail service," Mr. Young said, "C. & O. needs the cooperation of either the Frisco or the Missouri Pacific, both of which have refused to help.

"The Frisco and the Missouri Pacific have been in receivership now for 13 years," he continued, "paying fat fees to trustees and lawyers. Trustee of the Frisco is F. A. Thompson. Trustee of the Missouri Pacific is Guy Thompson. These brothers Thompson are partners in a St. Louis law firm, and have cooperated throughout the reorganization proceedings of both roads with eastern financial interests—the same interests that have set up voting trusts of their own in other bankrupt carriers.

"The Frisco and Missouri Pacific are highly competitive. It is unlawful under the Sherman act and also under the Interstate Commerce Act for competing carriers to be under the same control without specific approval of the Interstate Commerce Commission. The American rail picture is filled with situations such as the above contemptuous of the public interest."

Post Office Ready to Speed Schedules

(*Continued from page 877*)

received $28 million in revenue but handled only 34 million pounds of mail.

Competition Expected—"The railroads are engaged in a competitive venture," he declared, adding that "no one knows more than the managers of the railroads how intensive it probably will continue to be. We cannot take issue with the matter of competition. We expect it and it is a perfectly proper part of our economy. I have a strong personal opinion, however, to the effect that our government should play no favorites. That is perhaps another way of stating my conviction that public moneys should not be used for transportation charges over and above the value of the service. In fact, we feel that the user of the services should pay the charge. In other words, the government should not make up the difference between the cost of providing the service and the charges paid for by the customer."

Mr. Gurley called for improved techniques in the handling of mail bags between cars and trucks and for new methods of marking mail sacks that would reduce the time required in sorting at stations. As a final suggestion for improvement in mail service by rail, Mr. Gurley recommended improved contacts between railroad division supervisory forces and regional officers of the Railway Mail Service.

Preceding the dinner meeting, the railway and postal officers held a general discussion of ways to improve railway mail service at which means of handling "preferential" mail at regular stops and between non-stop stations on the fastest passenger trains were reviewed. Summarizing the results of this confernc, Mr. Sullivan said: "In its job of moving mail better, faster and cheaper, the Post Office uses all sorts of facilities. As things are now the railroad do the biggest and best job. Whatever rainbow visions of the future may be, from the point of view of facilities, personnel and regularity, the Post Office is a long way from putting all mail in the air. The Post Office has got to move the mail today, and every day, and the basic arteries of post office operations are and will remain the railroads."

Following this conference. the group adjourned to the Chicago Union station where a new, improved railway post office car, built by the Pennsylvania at its Altoona, Pa., works, was dedicated. The new stainless-steel car, which has been named the "Robert E. Hannegan" in honor of the postmaster general, features larger doors to speed the handling of mail; full vision windows; more efficient lighting, heating and ventilating systems; and improved wash-room and sanitary facilities.

Car Shortage to Continue for Year, Mid-West Board Told

Because freight cars of all types are still far below the total required by the railroads and demands for freight space may continue on the increase, the nationwide car shortage is expected to last at least another year, according to an address of R. E. Clarke, manager of the closed car section, Car Service division of the Association of American Railroads, delivered on April 18 before a meeting of the Mid-West Shippers' Advisory Board at the La Salle hotel, Chicago.

Mr. Clark in his address described the car situation as "not too good and not too bad", at the same time expressing the belief that, while the lack of freight cars will see some improvement within the next few months, it was obvious that the maximum use of available cars would have to be maintained for some time.

"There are many reasons why this freight car shortage will continue", Mr. Clark said. "One is the railroad's inability to secure materials with which to replace or repair bad order cars and equipment; another is the recent series of strikes which brought about the lack of materials; still another is the delayed reconversion traffic, also attributable to the strikes, and the bumper crop of grain which we confidently expect this year."

Delving into figures, the speaker told his listeners that loadings of livestock have averaged 16,602 cars per week since January 1, which, he said, was the highest loading record since 1932. Increasing production of vegetables and fruits with no comparable increase of refrigerator cars will be another headache for the railroads. Added to these factors, Mr. Clark declared, was the fact that there are now 9,600 more bad order cars on hand than in April of last year, and that there are at present 18,000 less first-class box cars available than during last year. Speaking of the grain crop Mr. Clark said:

"For the third consecutive year a billion bushel crop is expected, according to experts of the Department of Agriculture, and we are going to need it." He declared that such a crop would require considerably more cars than are now available to move it. Added to this problem is that of securing transportation for grain to eastern seaports for shipment to Europe.

In answer to a question concerning continuation of Office of Defense Transportation Orders No. 1 and No. 18-A, covering maximum loading of cars during war-time, Mr. Clark stated that although the O. D. T. is rumored to be going out of existence in the near future, he hoped its functions would continue for some time. "Otherwise," he concluded, "you'll see the most acute box car shortage we have experienced in years!"

Another angle on the car situation was supplied by C. W. Taylor, Interstate Commerce Commission agent for refrigerator car movement, who informed the meeting that refrigerator car loadings have increased 10 per cent over last year and at the same time 10 per cent less equipment is in use.

At noon a luncheon was held jointly by the Advisory Board and the Traffic Club of Chicago which was attended by more than 600 persons. This gathering was addressed by J. Earl Bryan, general traffic manager of the Wisconsin Paper & Pulp Manufacturers, and general chairman of the board's National Management committee, who spoke on the "Perfect Shipping Month Campaign" now on. Mr. Bryan said his committee had completed plans toward making the 30-day campaign a year-around affair, and declared that in order to eliminate the tremendous loss to railroads and shippers, which in 1945 reached a total of $80 million and is already showing signs of again rising this year, the problem must be approached from an engineering point of view. He pointed out that there are laboratories in many parts of the country which specialize in solving problems of packing and stowing merchandise, whether the containers be of wood, cardboard or fiber.

An address prepared by S. O. Dunn, editor, *Railway Age*, and chairman of the board, Simmons-Boardman Publishing Corporation, was delivered in Mr. Dunn's absence by Charles Layng, western editor, *Railway Age*. This address was published in the April 20 issue of the *Railway Age*, page 814.

The next meeting of the board will be held at Burlington, Iowa, on July 17 and 18, or 18 and 19.

Atlantic City "Bridge" Trains Back to Pre-War Status

Parlor car service on "bridge" trains between Broad Street station, Philadelphia, Pa., and Atlantic City, N. J., were restored April 28, with the inauguration of daylight saving time and the spring change in timetables, the Pennsylvania-Reading Seashore Lines has announced. This summer the operation of the bridge trains will be continued over weekends, a service that could not be provided during the war.

General News Department is continued on page 899.

With the Government Agencies

I. C. C. Advocates H. R. 2536 Passage

Aitchison offers amendments to Wheeler committee; Gen. Gross heard

Declaring that the Interstate Commerce Commission regards legislation along the "general lines" of the Bulwinkle bill, H. R. 2536, as "necessary for measurable accomplishment of the purposes of the national transportation policy," Commissioner Clyde B. Aitchison this week presented to the Senate interstate commerce committee the I. C. C.'s proposed amendments to the measure, approval of which would exempt railroads from anti-trust laws with respect to rate-making procedures. Hearings on the bill, which started on March 20 before the committee headed by Senator Wheeler, Democrat of Montana, are scheduled to conclude soon.

"Although this bill provides a measure of regulation for the rate bureaus and other organizations or associations maintained by carriers, or associations thereof, the bill as passed by the House omits two provisions which we consider important and recommended to the House committee should be included," Commissioner Aitchison said. "We are of the opinion that the I. C. C. should be able to require reports from such bodies and to inspect their records and accounts." He said the commission made that recommendation in its 1944 report.

Not up to the Courts—The commissioner, recommending Senate approval of the measure with suggested amendments, declared he disagreed with the opinions of the Department of Justice that Congress should not act on the bill until court decisions are reached in the current anti-trust suits against the railroads.

"The power of the Federal government to regulate commerce between states is lodged in Congress, not in the judiciary," he said. "As an agency of Congress, charged with grave responsibilities in the carrying out of the legislatively announced national transportation policy, the I. C. C. recommends that the bill be passed with the modifications it has recommended."

"The bill undertakes to carry out its purpose appropriately by amendment to the Interstate Commerce Act, rather than by some other method," he continued. "The measure passed by the House is much too meticulous and to some extent too drastic in its terms. The rstrictions which it would impose and the cumbersome machinery it required would practically make it impossible for rate bureaus to function. A regulatory statute dealing with this subject should be comparatively brief and general in character. It should allow some flexibility, suitable to the character of the regulated organizations and to their size, complexity and the particular restrictions which should be imposed."

In commenting on the regulatory practices of the I. C. C. since the Transportation Act of 1920 was passed, the witness said that "nothing could be more incorrect" than testimony presented before the committee which indicated a general view that "within a zone of reasonableness" (which, he said, should be redesignated the "zone of lawfulness") all carriers subject to the Interstate Commerce Act may initiate rates at will without violating the law and that the I. C. C. is entirely impotent to deal with such cases.

"The doctrine is a hangover from the common law when carriers were free to initiate whatever rates they chose, if not reasonably high," he added. "But from beginning of regulation in the United States, and also wherever the common law prevails, this privilege has progressively been lessened by legislation since the coming of the railroads and canals.

"From start to finish, the Interstate Commerce Act restricts managerial discretion and the successive amendments to the Act have continually lessened the zone of freedom from the binding force of regulation."

Commissioner Aitchison said that when the late Joseph B. Eastman was before the Senate interstate commerce committee three years ago, the former director of the Office of Defense Transportation was of the opinion that it was desirable that the status of carrier rate organizations under the Sherman act be clarified by legislation "sooner or later," although he believed the immediate need for legislation at that time was not great because Certificate No. 44 and the regulations prescribed by the I. C. C. would "take care of the matter adequately" for the time being.

"He did feel, however," the speaker asserted, "that as long as the matter was then before the committee action might as well be taken now."

"Imperative Need"—"There is more imperative need for clarification now than when Mr. Eastman testified three years ago," he continued. "The life of Certificate No. 44 and the regulations of the commission which accompany it will expire the end of this month. The uncertainty as to what will then occur has not been resolved by the testimony produced here at great length, and the lapse of time has increased the uncertainty to the point where its continuance will be a menace to commerce.

"We agree with Mr. Eastman that these rate organizations have not been free from abuses, and that these abuses should be corrected. The associations should then be permitted to function as aids to commerce without the recurrent threat of prosecu-

(*Continued on page 889*)

Court Sustains I. C. C. on Car Allowance

Refuses to upset ruling that shippers can't make a profit on hired cars

The Supreme Court of the United States this week upheld Interstate Commerce Commission findings to the effect that mileage allowances paid to shippers for the use of tank cars which they have leased must not exceed rental payments made by the lessees to the car owners. The opinion, delivered by Justice Black, was in *El Dorado Oil Works and El Dorado Terminal Company vs. U. S.*, and a brief dissenting-in-part expression came from Justice Douglas.

Before the court was the commission's decision in the No. 28515 proceeding which condemned as unlawful provisions of a contract between the General American Tank Car Corporation (now General American Transportation Corporation) and El Dorado to the extent that they called for crediting the latter's rental account with mileage earnings in excess of the rental paid for tank cars (see *Railway Age* of April 29, 1944, page 823). The contract, dated September 28, 1933, covered the lease of cars by the Tank Car Corporation to El Dorado during the period beginning January 1, 1934, and ending December 31, 1936.

The lease provided among other things that the lessor should collect from the railroads all mileage allowances earned by the leased cars, crediting such allowances to the lessee's rental account. During the period from January 1, 1934, to July 1, 1934, the commission's report showed, the Tank Car Corporation paid over to El Dorado mileage earnings of $7,219.54 in excess of the rental due from El Dorado. After that date the Tank Car Corporation, assuming that such action would be necessary to comply with principles enunciated by the commission in *Use of Privately Owned Refrigerator Cars*, decided July 2, 1934, refused to credit any further excess mileage earnings.

El Dorado thereupon sued the Tank Car Corporation to recover the unpaid excess mileage earnings, and judgment for the latter by the U. S. District Court for the Northern District of California was reversed by the Circuit Court of Appeals, which in turn was reversed by the Supreme Court. On that previous occasion, however, the Supreme Court, as the present decision recalls, rejected the commission's contention that the district court had no jurisdiction to hear the case, but it accepted the contention that determination of the validity of the challenged past practices was for the commission.

ance with other well-known principles and elements in freight classification.

"In practical application, one difficulty in the formula method is the constantly changing levels of the values inserted into such a formula. For various commodities those levels not only rise and fall differently with changes in the general price level, but also vary widely within comparatively short periods. That this situation constitutes an insuperable objection to the use of weight density-value formulas in classification work, however, would seem to be a doubtful conclusion, if it is assumed, as stated above, that the formula for combination of those elements is in itself sound."

New York Central, Union Pacific Mines Cited for Safety

Mines owned by the New York Central in Clymer, Pa., and by the Union Pacific Coal Co., a subsidiary of the Union Pacific, in Winton, Wyo., and Hanna, Wyo., have been awarded certificates of honor for extraordinary achievements in safety, it was announced this week by the Department of Interior. The specific mines cited were Clymer No. 2, Winton No. 7½ and Hanna No. 4.

A certificate of honor for long-time service in promoting health and safety in mining and the mineral industries and for supervisory proficiency also was awarded John T. James of the N. Y. C.'s coal mining department, Commodore, Pa.

Motion to Take Crosser Bill from Lea Committee

Representative Neely, Democrat of West Virginia, last week filed with the clerk of the House of Representatives a motion to discharge the committee on interstate and foreign commerce from further consideration of H. R. 1362, the bill introduced early last year by Representative Crosser, Democrat of Ohio, to carry out the Railway Labor Executives' Association program for liberalizing the Railroad Retirement and Railroad Unemployment Insurance acts. The discharge petition, with the 218 member signatures which it required, was dated April 16 and printed in the Congressional Record on April 18, the day on which the House adjourned for an Easter recess extending until April 30.

It was referred to the calendar of motions to discharge committees, and under House rules it has the effect of authorizing the discharge motion to be made on the floor not earlier than May 13. Speaking on the matter in the House on April 18, Representative Neely said that "at the request of the spokesmen for the various railroad brotherhoods," he voiced "their abiding gratitude to the 218 members of the House who have signed discharge petition No. 28."

"As a result of the action of the petitioners," he added, "the House will at an early date enjoy the privilege and perform the duty of rendering its judgment on the bill H. R. 1362. . . . The enactment of the proposed amendments is of vital importance to every railroad employee in the United States. It is my hope and belief that Congress will soon make the bill that contains these amendments a part of the law of the land."

The interstate commerce committee, meanwhile, has about completed work on the framing of a modified version of H. R. 1362, having adopted in the main the recommendations of its subcommittee on the measure. If the committee, as is expected, acts in the near future to report a modified version, such action might forestall the discharge motion, which, however, would bring the original bill before the House.

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Recommendations for the improvement of international transport are outlined in a report released recently by the Committee on International Transport, Transportation and Communications Department, United States Chamber of Commerce. The report, a supplement to the Statement of Policy on International Transport adopted by the Chamber of Commerce in 1943, states in part:

"The service of international transport should be recognized as economic, not political. There should be the fullest adherence to the time-honored principle of freedom of the seas and to the new principle, freedom of the air.

"It is highly important that our government continue its policy that representatives of our shipping and air transport industries be included in our governmental representation at international conferences.

"It is urged that preference be given to privately owned vessels and such chartered ships in the allocation of cargoes controlled by the War Shipping Administration." The report commends the principles of the Merchant Marine Act of 1936 and the Civil Aeronautics Act of 1938, pointing out that provisions for a regime of regulated competition in each of these fields are sound.

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* * *

Broadcast at A. R. E. A. Meeting

The transportation outlook and what the railroads are doing to produce better, safer and more economical transportation was discussed over Station WLS in Chicago recently, in connection with the 45th annual meeting of the American Railway Engineering Association. Those who took part in the program are, left to right: Robert S. Henry, assistant to the president, Association of American Railroads; Charles H. Mottier, vice-president and chief engineer of the Illinois Central; Albert R. Beatty, manager of the Press and Radio section of the A. A. R.; Arthur C. Page, farm program director of WLS, and Arthur H. Gass, director of the Railway Transport department, Office of Defense Transportation.

With the Government Agencies

I. C. C. Advocates H. R. 2536 Passage

Aitchison offers amendments to Wheeler committee; Gen. Gross heard

Declaring that the Interstate Commerce Commission regards legislation along the "general lines" of the Bulwinkle bill, H. R. 2536, as "necessary for measurable accomplishment of the purposes of the national transportation policy," Commissioner Clyde B. Aitchison this week presented to the Senate interstate commerce committee the I. C. C.'s proposed amendments to the measure, approval of which would exempt railroads from anti-trust laws with respect to rate-making procedures. Hearings on the bill, which started on March 20 before the committee headed by Senator Wheeler, Democrat of Montana, are scheduled to conclude soon.

"Although this bill provides a measure of regulation for the rate bureaus and other organizations or associations maintained by carriers, or associations thereof, the bill as passed by the House omits two provisions which we consider important and recommended to the House committee should be included," Commissioner Aitchison said. "We are of the opinion that the I. C. C. should be able to require reports from such bodies and to inspect their records and accounts." He said the commission made that recommendation in its 1944 report.

Not up to the Courts—The commissioner, recommending Senate approval of the measure with suggested amendments, declared he disagreed with the opinions of the Department of Justice that Congress should not act on the bill until court decisions are reached in the current anti-trust suits against the railroads.

"The power of the Federal government to regulate commerce between states is lodged in Congress, not in the judiciary," he said. "As an agency of Congress, charged with grave responsibilities in the carrying out of the legislatively announced national transportation policy, the I. C. C. recommends that the bill be passed with the modifications it has recommended."

"The bill undertakes to carry out its purpose appropriately by amendment to the Interstate Commerce Act, rather than by some other method," he continued. "The measure passed by the House is much too meticulous and to some extent too drastic in its terms. The rstrictions which it would impose and the cumbersome machinery it required would practically make it impossible for rate bureaus to function. A regulatory statute dealing with this subject should be comparatively brief and general in character. It should allow some flexibility, suitable to the character of the regulated organizations and to their size, complexity and the particular restrictions which should be imposed."

In commenting on the regulatory practices of the I. C. C. since the Transportation Act of 1920 was passed, the witness said that "nothing could be more incorrect" than testimony presented before the committee which indicated a general view that "within a zone of reasonableness" (which, he said, should be redesignated the "zone of lawfulness") all carriers subject to the Interstate Commerce Act may initiate rates at will without violating the law and that the I. C. C. is entirely impotent to deal with such cases.

"The doctrine is a hangover from the common law when carriers were free to initiate whatever rates they chose, if not reasonably high," he added. "But from beginning of regulation in the United States, and also wherever the common law prevails, this privilege has progressively been lessened by legislation since the coming of the railroads and canals.

"From start to finish, the Interstate Commerce Act restricts managerial discretion and the successive amendments to the Act have continually lessened the zone of freedom from the binding force of regulation."

Commissioner Aitchison said that when the late Joseph B. Eastman was before the Senate interstate commerce committee three years ago, the former director of the Office of Defense Transportation was of the opinion that it was desirable that the status of carrier rate organizations under the Sherman act be clarified by legislation "sooner or later," although he believed the immediate need for legislation at that time was not great because Certificate No. 44 and the regulations prescribed by the I. C. C. would "take care of the matter adequately" for the time being.

"He did feel, however," the speaker asserted, "that as long as the matter was then before the committee action might as well be taken now."

"Imperative Need"—"There is more imperative need for clarification now than when Mr. Eastman testified three years ago," he continued. "The life of Certificate No. 44 and the regulations of the commission which accompany it will expire the end of this month. The uncertainty as to what will then occur has not been resolved by the testimony produced here at great length, and the lapse of time has increased the uncertainty to the point where its continuance will be a menace to commerce.

"We agree with Mr. Eastman that these rate organizations have not been free from abuses, and that these abuses should be corrected. The associations should then be permitted to function as aids to commerce without the recurrent threat of prosecu-

(*Continued on page 889*)

Court Sustains I. C. C. on Car Allowance

Refuses to upset ruling that shippers can't make a profit on hired cars

The Supreme Court of the United States this week upheld Interstate Commerce Commission findings to the effect that mileage allowances paid to shippers for the use of tank cars which they have leased must not exceed rental payments made by the lessees to the car owners. The opinion, delivered by Justice Black, was in *El Dorado Oil Works and El Dorado Terminal Company vs. U. S.*, and a brief dissenting-in-part expression came from Justice Douglas.

Before the court was the commission's decision in the No. 28515 proceeding which condemned as unlawful provisions of a contract between the General American Tank Car Corporation (now General American Transportation Corporation) and El Dorado to the extent that they called for crediting the latter's rental account with mileage earnings in excess of the rental paid for tank cars (see *Railway Age* of April 29, 1944, page 823). The contract, dated September 28, 1933, covered the lease of cars by the Tank Car Corporation to El Dorado during the period beginning January 1, 1934, and ending December 31, 1936.

The lease provided among other things that the lessor should collect from the railroads all mileage allowances earned by the leased cars, crediting such allowances to the lessee's rental account. During the period from January 1, 1934, to July 1, 1934, the commission's report showed, the Tank Car Corporation paid over to El Dorado mileage earnings of $7,219.54 in excess of the rental due from El Dorado. After that date the Tank Car Corporation, assuming that such action would be necessary to comply with principles enunciated by the commission in *Use of Privately Owned Refrigerator Cars*, decided July 2, 1934, refused to credit any further excess mileage earnings.

El Dorado thereupon sued the Tank Car Corporation to recover the unpaid excess mileage earnings, and judgment for the latter by the U. S. District Court for the Northern District of California was reversed by the Circuit Court of Appeals, which in turn was reversed by the Supreme Court. On that previous occasion, however, the Supreme Court, as the present decision recalls, rejected the commission's contention that the district court had no jurisdiction to hear the case, but it accepted the contention that determination of the validity of the challenged past practices was for the commission.

Case Was Remanded—At the same time the court pointed out that the mileage tariffs approved by the commission fixed no uniform rate to be paid by railroads to the shipper directly for the use of cars originally rented by the shipper, and that El Dorado had never applied to the commission for a decision on what was a proper allowance for the cars furnished by it. Thus the case was sent back to the commission so that it could render its decision as to what would be a "just and reasonable" allowance to El Dorado.

Then came the commission's April, 1944, decision, noted above, which found that a just and reasonable allowance to El Dorado would be the cost incurred by it in furnishing the cars, namely the monthly rental paid to the Tank Car Corporation, and that any amount in excess of that would be unjust and unreasonable in violation of section 15 (13) and would "constitute a rebate and discrimination and involve a departure from the tariff rules applicable, prohibited by section 1 of the Elkins Act and section 6 (7) of the Interstate Commerce Act. . . ." The commission further ordered the proceeding discontinued.

When the case reached the Supreme Court for the second time, El Dorado's major contention was that the Interstate Commerce Act and the court's earlier opinion did not authorize the commission to determine allowances which appellants were to receive for past transactions, i. e., that the opinion and act authorized the determination of nothing more than "what uniform allowance shippers as a class would be permitted to charge in the future." It was also argued that the commission's order was invalid in so far as it was based "on a treatment of shipper-lessees as a class apart, and on a limitation of their allowance to the cost to them of the cars they furnish" in that "it neither rests on, nor brings about, a uniform rate to all shippers, or even to shipper-lessees."

The court rejected these contentions, pointing out that its previous decision and the act not only authorized the commission to determine the lawfulness of the past practices, but that the determination was made "on the basis of appellants' own application, asking the commission to do so." With respect to the argument that the commission failed to treat all shippers or all shipper-lessees uniformly because it did not fix future uniform rates, the court said, "the answer is that it was not required to do so."

It was conceded that under the commission's rule different shipper-lessees might receive different allowances, but the court nevertheless insisted that "the rule is uniform in that it permits no shipper to receive allowances exceeding the rental he pays."

Shipper-Lessees a Class Apart—"All shipper-lessees," the court continued, "are prohibited from making profits at the expense of the railroads on cars rented to transport goods in interstate commerce. Since the facts before the commission were enough to enable it to find that such profits amount to rebates to shipper-lessees which result in discrimination against shippers that own cars or use cars furnished by the railroad, the commission was justified in treating shipper-lessees as a class apart. As the commission pointed out in its Refrigerator opinion, the history of railroad practices shows that rebates, concessions, and favoritism have frequently grown out of the private car system. Notwithstanding the very great transportation service supplied by private cars, designed and equipped to meet special needs, the commission acts within its power when it attempts to regulate their use so as to put a stop to existing prohibited evils. It must test violations of the Interstate Commerce Act by results."

Justice Douglas, in his dissenting-in-part expression, said he did not think it should be left to the shipper and car owner to determine what portion of the tariff paid by the railroad should be paid to the shipper. That, he added, is permitted by the majority opinion when it measures the shipper's allowance by the amount of rental he has agreed to pay the car owner.

He went on to quote from Commissioner Splawn's dissent to the commission's decision, expressing agreement with the Splawn view that the commission was required to fix a uniform allowance for tank cars as a class, even though some shippers might be able to furnish the cars at less than the published allowance while others might find their cost in excess of it. "Uncontinued, "a situation is sanctioned in which concessions and discriminations . . . . are likely to thrive."

To state a "further objection to the course which the court sanctions," the dissenting justice quoted from Commissioner Splawn's opinion another excerpt which said that "the form of an allowance for the use of cars must be such as to reflect the extent of the use by the railroads of the less that course is followed," Mr. Douglas facilities furnished. . . . The railroads cannot be held responsible for the amount of rent reserved by the Car Corporation in an agreement with the shipper as the car may be left idle during the entire period." That "principle," as Justice Douglas sees it, is violated by "any allowance based on cost to the shipper rather than on the use of the facility furnished."

Named to Conduct Probe of Rail Reorganizations

Chairman Wheeler of the Senate committee on interstate commerce has appointed a subcommittee to conduct the committee's investigation of conditions surrounding the operation and handling of railroads undergoing reorganization by the trustees and receivers, and of the fees paid trustees, counsel and bankers in connection with the reorganizations. The subcommittee is headed by Senator Myers, Democrat of Pennsylvania, other members being Senators Stewart of Tennessee and Johnston of South Carolina, Democrats, and Capehart of Indiana, Republican. Another Republican member will be appointed to serve instead of Senator Reed of Kansas, who was named originally but later withdrew.

The investigation was authorized by the Senate on April 1 when it adopted Senate Resolution 192, introduced by Senator Wheeler for himself and Senator Reed. The committee was allowed $5,000 for expenses. Its comprehensive report recommending the favorable Senate action on the resultion was reviewed in the *Railway Age* of February 16, page 376.

C. P. A. Sees Rail Curtailment if Coal Strike Continues

Curtailment in the near future of railroad operations, particularly in the East, where more roads have coal-burning locomotives, was predicted last week by the Railway Transportation Division of the Civilian Production Administration. The agency's forecast highlighted a radio address on April 17 by J. D. Small, C. P. A. administrator, on the affect of the present coal strike on the nation's transportation systems and other industries.

It was pointed out that "one large railroad" already has appealed for the release of some of the coal in mine stocks now frozen by government order. The agency reported that most railroads had stockpiles of more than a 30-day supply of coal when the strike started. It added that western roads for the most part have oil-burning locomotives and therefore will not be affected as soon as the eastern roads should the strike continue.

Meanwhile, it was announced by J. D. Krug, Solid Fuels Administrator, that the current strike of the United Mine Workers has caused a production loss so far this month greater than the total loss of output from all work stoppages in 1945.

Wheeler Bill Would Establish Federal Traffic Bureau

Establishment of a Federal Traffic Bureau with broad powers over government shipping and transportation matters is proposed in S.2088, a bill introduced in the Senate last week by Senator Wheeler, Democrat of Montana, chairman of the committee on interstate commerce. Introduction of the bill is the aftermath of the investigation which the Bureau of the Budget conducted at Senator Wheeler's request into transportation charges paid by the War Department.

As noted in the *Railway Age* of February 9, page 333, the report on that investigation recommended establishment within the War Department of a more or less autonomous branch with functions related solely to freight rates, rate negotiations with the carriers, and formal rate proceedings before regulatory bodies. The Wheeler bill, however, would go further and establish such an agency on an over-all basis with jurisdiction over the transportation requirements of all federal departments.

The bill would transfer to the new Federal Traffic Bureau all powers, duties, and responsibilities of all departments and agencies of the government (including corporations all or substantially all of whose capital stock is owned or held by or for the United States), with respect to the following matters: (1) Negotiation and making of all contracts for the transportation of government traffic; (2) routing, diversion, or reconsignment of government shipments; (3) representation of the United States in all proceedings before administrative tribunals relating to matters within the jurisdiction of the bureau; (4) checking, audit-

ing, revision, and verification of bills for transportation charges for government shipments; and (5) filing and prosecution of claims, actions, suits, or proceedings for recovery of overcharges or unreasonable charges for transportation of government shipments, or for loss of, damage to, or delay in government shipments.

The bureau would be administered by a director, appointed by the President with the advice and consent of the Senate, who would serve "during good behavior" and receive an annual salary of $12,000. Among other assignments, it would be the duty of the bureau "continuously to investigate the justness and reasonableness of all present and proposed tariffs insofar as they relate to or concern, directly or indirectly, any actual or potential government traffic"; and to "receive, audit, check, and verify all bills against the United States for the transportation of government shipments."

O. D. T. Revokes Last Railroad Passenger Service Orders

Revocation, effective May 1, of its two remaining orders affecting railroad passenger services was announced by the Office of Defense Transportation this week. The orders are General Order 55, effective since July 17, 1945, which placed all passenger coaches, baggage and express cars at the disposal of the military authorities under O. D. T. supervision; and General Order 56, effective since June 20, 1945, which established uniform occupancy standards for railroad cars in organized military movements, requiring the assignment of three persons to a section in sleeping cars and allocating two double seats or four single seats to three persons traveling by day coach.

The O. D. T. announcement said that the revocations were possible because demobilization movements have passed their peak. And they are "in line with the O. D. T. policy of removing all controls on transportation as soon as they are no longer needed."

Study of Density and Value Factors in Classification

The Interstate Commerce Commission has made public a study of "Weight Density and Value as Factors in Freight Classification," which was prepared by Dr. Beatrice Aitchison of the Bureau of Transport Economics and Statistics staff. The study is Statement No. 469, a document of 38 mimeographed sheets, and it was issued "as information," not having been "considered or adopted" by the commission.

The foreword by Director W. H. S. Stevens of the bureau points out that the study was originally undertaken and completed some time ago in connection with the commission's No. 28310 investigation of the Consolidated Freight Classification, and that it is based upon an analysis of data with regard to value and weight density of commodities introduced in that proceeding. Dr. Stevens adds that in view of the interest attaching to classification ratings as a result of the order in that case, which requires uniform ratings throughout the country, "it seemed appropriate that this analysis should be made available."

Dr. Aitchison's analysis of the No. 28310 exhibits and testimony relating to classification factors points up evidence indicating how the growth of competing forms of transportation in recent years has caused more emphasis to be placed on weight density and less consideration to be given value per pound. Among her conclusions is a finding that there is abroad a general theory to the effect the importance of value and weight density in classification ratings "cannot be determined in accordance with any general rule but must depend to a great extent upon the exercise of informed and experienced judgment."

Yet Dr. Aitchison points out that one formula for relating value per pound and weight per cubic foot in classification ratings was developed some time ago by J. T. Ripley, former chairman of the Western Classification Committee. Moreover, she suggests in the present study another formula, which she tests by applying it to the No. 28310 data concerning 800 changes in the classification or additions to the classification made between June 30, 1928, and December 15, 1930; 800 changes made between December 24, 1936, and May 25, 1940; and 800 changes effective between July 15, 1940, and September 30, 1942. Meanwhile Dr. Aitchison's conclusions, having suggested that "further improved formulas are perhaps possible," also have this to say:

"Granting that any such formula cannot or should not be entirely controlling or displace the sound judgment of experts in numerous cases, the classification ratings developed by this method are the result of an attempt at an appropriate relation of the fundamental classification elements of weight density and value in terms of a method applied on a uniform and impersonal basis to all commodities. If the character of the formula itself is appropriate, the uniformity and impersonality of its application may be regarded as making a prima facie case for the validity of ratings developed therefrom, leaving factors other than those two to be recognized by deviations from such formula ratings in accord-

Selected Income and Balance-Sheet Items of Class I Steam Railways

Compiled from 130 reports (Form IBS) representing 134 steam railways
(Switching and Terminal Companies Not Included)

Income Items	All Class I Railways 1946	1945
1. Net railway operating income	$70,834,547	$76,239,754
2. Other income	13,655,984	15,077,086
3. Total income	84,490,531	91,316,840
4. Miscellaneous deductions from income	2,654,849	1,955,990
5. Income available for fixed charges	81,835,682	89,360,850
6. Fixed charges:		
6-01. Rent for leased roads and equipment	14,986,697	11,445,973
6-02. Interest deductions[1]	29,884,026	31,572,499
6-03. Other deductions	115,106	103,988
6-04. Total fixed charges	44,985,829	43,122,460
7. Income after fixed charges	36,849,853	46,238,390
8. Contingent charges	2,962,626	3,154,490
9. Net income[2]	33,887,227	43,083,900
10. Depreciation (Way and structures and Equipment)	28,276,930	27,393,578
11. Amortization of defense projects	482,875	18,894,789
12. Federal income taxes	25,409,650	87,592,059
13. Dividend appropriations:		
On common stock	2,902,627	2,147,500
On preferred stock	2,599,161	2,595,862
Ratio of income to fixed charges (Item 5÷6—04)	1.82	2.07
Selected Asset and Liability Items		
17. Expenditures (gross) for additions and betterments—Road	$15,659,416	$14,287,234
18. Expenditures (gross) for additions and betterments—Equipment	22,942,551	19,357,916
19. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	564,036,236	579,401,622
20. Other unadjusted debits	169,825,689	233,879,736
21. Cash	1,034,365,701	993,829,659
22. Temporary cash investments	1,579,739,241	1,879,989,019
23. Special deposits	166,666,522	259,334,972
24. Loans and bills receivable	457,568	384,863
25. Traffic and car-service balances—Dr.	43,552,509	53,170,085
26. Net balance receivable from agents and conductors	101,534,660	135,595,026
27. Miscellaneous accounts receivable	456,642,472	636,539,526
28. Materials and supplies	604,799,323	607,146,511
29. Interest and dividends receivable	26,378,946	27,782,437
30. Accrued accounts receivable	267,068,441	306,966,343
31. Other current assets	55,787,367	52,677,320
32. Total current assets (items 21 to 31)	4,336,992,750	4,953,415,761
40. Funded debt maturing within 6 months[3]	139,752,125	106,102,680
41. Loans and bills payable	10,354,058	11,185,000
42. Traffic and car-service balances—Cr.	141,848,795	176,125,067
43. Audited accounts and wages payable	462,753,608	448,355,784
44. Miscellaneous accounts payable	176,025,857	169,866,150
45. Interest matured unpaid	51,713,867	51,507,559
46. Dividends matured unpaid	7,589,585	7,380,003
47. Unmatured interest accrued	67,352,238	65,711,301
48. Unmatured dividends declared	19,738,988	14,046,947
49. Accrued accounts payable	212,153,898	216,125,868
50. Taxes accrued	806,033,143	1,810,429,976
51. Other current liabilities	106,752,654	148,339,366
52. Total current liabilities (items 41 to 51)	2,062,316,691	3,119,073,021
53. Analysis of taxes accrued:		
U. S. Government taxes	674,392,486	1,673,180,752
Other than U. S. Government taxes	131,640,657	137,249,224
54. Other unadjusted credits	413,393,948	581,234,226

[1] Represents accruals, including the amount in default.
[2] After deduction of the following amounts taken out of operating revenues to create reserves for land grand deductions in dispute: Jan. 1946, $454,035; Jan. 1945, $3,165,341.
[3] Includes payments of principal of long-term debt (other than long-term debt in default) which will become due within six months after close of month of report.

ance with other well-known principles and elements in freight classification.

"In practical application, one difficulty in the formula method is the constantly changing levels of the values inserted into such a formula. For various commodities those levels not only rise and fall differently with changes in the general price level, but also vary widely within comparatively short periods. That this situation constitutes an insuperable objection to the use of weight density-value formulas in classification work, however, would seem to be a doubtful conclusion, if it is assumed, as stated above, that the formula for combination of those elements is in itself sound."

New York Central, Union Pacific Mines Cited for Safety

Mines owned by the New York Central in Clymer, Pa., and by the Union Pacific Coal Co., a subsidiary of the Union Pacific, in Winton, Wyo., and Hanna, Wyo., have been awarded certificates of honor for extraordinary achievements in safety, it was announced this week by the Department of Interior. The specific mines cited were Clymer No. 2, Winton No. 7½ and Hanna No. 4.

A certificate of honor for long-time service in promoting health and safety in mining and the mineral industries and for supervisory proficiency also was awarded John T. James of the N. Y. C.'s coal mining department, Commodore, Pa.

Motion to Take Crosser Bill from Lea Committee

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Broadcast at A. R. E. A. Meeting

The transportation outlook and what the railroads are doing to produce better, safer and more economical transportation was discussed over Station WLS in Chicago recently, in connection with the 45th annual meeting of the American Railway Engineering Association. Those who took part in the program are, left to right: Robert S. Henry, assistant to the president, Association of American Railroads; Charles H. Mottier, vice-president and chief engineer of the Illinois Central; Albert R. Beatty, manager of the Press and Radio section of the A. A. R.; Arthur C. Page, farm program director of WLS, and Arthur H. Gass, director of the Railway Transport department, Office of Defense Transportation.

The American Train Dispatchers Association has been authorized to represent all train dispatchers employed by the Nashville, Chattanooga & St. Louis. At the time of the election, assistant chief, trick, relief and extra train dispatchers, as well as train controllers, were represented by the association, while the chief dispatchers were without representation.

As the result of another election, electrical workers, helpers and apprentices, including road electricians, employed by the Missouri-Kansas-Texas and the Missouri-Kansas-Texas of Texas are now represented by the International Brotherhood of Electrical Workers operating through the Railway Employees' Department, A. F. of L. At the time of the election, only the road electricians were without representation.

I. C. C. Advocates H. R. 2536 Passage

(*Continued from page 885*)

tions. If the bill before Congress can become the instrument for correction of abuses and legalizing beyond doubt the proper functioning of these necessary associations, the time and effort consumed in these hearings will be well spent."

In tracing the history and development of the commission, in addition to citing many of its problems in his 88-page prepared statement, Commissioner Aitchison flatly declared that the "I. C. C. is responsible for the present rate structure—whether anyone likes it or not."

Referring to charges of routing discriminations, he said that "Congress has been most solicitous in requiring the shipper's predilections and wishes to be followed as to the routing of his shipment by one or another competing route and in affording a railroad carrier, which is discriminated against by its connections with adequate remedies, either money damages, or a cease and desist order. If a carrier by railroad is too spineless to exercise the rights Congress has given it, little can be done for it.

"Furthermore, the Interstate Commerce Act provides that in emergencies, when the I. C. C. is of the opinion that any carrier by railroad is for any reason unable to transport the traffic offered it so as properly to serve the public, the commission may, with or without hearing, make such just and reasonable directions with respect to the routing of the traffic of such carrier and its distribution over other lines of roads, as in its opinion will best promote the service in the interest of the public and the commerce of the people.

Remedies Available—"It has been said during the hearings that the reserved right of independent action by an aggressive competing railroad is not likely to be exercised because it will be deterred by threatened reprisals, and the threatened diversion of unrouted traffic away from it by its connections has been mentioned. We think this overlooks the governing provisions of the Interstate Commerce Act and the remedies given to carriers damaged by unlawful discrimination between connecting carriers in respect of unrouted traffic, for Section 15(8) of the act gives the shipper by railroad the right to designate the routing of his shipment, subject to such reasonable execptions and regulations as the I. C. C. shall from time to time prescribe."

Committee Chairman Wheeler, who commented frequently during Commissioner Aitchison's testimony, declared that "there should be some way in which the little shipper can find out what is going on." He said that small shippers, unlike large shippers, cannot afford the "time, money and lawyers" to assist them with their problems, and that "big men" usually get their matters handled more quickly than the "little men." He added that railroads as individuals, and ot as a whole, should be able to initiate rates.

Senator Reed, Kansas Republican, who highly praised Commissioner Aitchison's testimony, asserted that the current rate-making theory and practice has, in many ways, got the "public by the throat," and replying to Senator Wheeler's remarks, declared that "there is no rate or decision that doesn't irk someone." He said that Commissioner Aitchison's testimony finally resulted in "getting some truth and sense into the record."

"The I. C. C. should have the authority to examine all reports and records of rate bureaus," Senator Reed continued, "and also should have the power to grant exceptions in all cases where the remedy would be under its jurisdiction."

"We tried to examine reports and records on several occasions," Commissioner Aitchison said, "but we were held to the limits of the Interstate Commerce Act." He added the committee should bear in mind that "small carriers should receive protection" in rate and service functions.

Wheeler Fears Immunity—Senator Wheeler, referring to the "immunity" the bill would give the railroads, declared that "if you're going to give immunity with respect to anti-trust legislation, there should be certain limitations. If you're going to approve of general practices by railroads and carrier associations, you will be confronted with similar appeals from other industries and organizations, such as the National Association of Manufacturers."

Also testifying this week were Major-General Charles P. Gross, former chief of transportation of the United States Army, and now chairman of the Board of Transportation of the City of New York, and Edward B. Hayes of Chicago, representing three water carriers.

Appearing in support of the bill, General Gross declared that "had it not been for the A. A. R. during World War II, the nation's railroads would have been nationalized." He said that the railroads moved more than 300 million tons of goods during the emergency, with comparatively very little traffic being handled by motor and water carriers.

"The A. A. R. was one of the greatest factors in the early termination of the war," he continued. "The Army Service Forces had more than a half million items of equipment to supply the forces engaged overseas. Many of those items would take the unclassified rate. It was necessary to classify these rates as rapidly as possible. The rates were published to the nearest comparable rates as fast as our forces permitted. We needed the organization of the A. A. R. and the rate bureaus to accomplish that.

"Had we had to nationalize railroads, I don't think the operations would have been so efficient. I think we would have had to take time out to build more equipment than we actually availed ourselves of in the last war. Instead of having plate for ships and tanks, the railroads, being denied practically everything during the war, would have been forced to have more assistance, as was found to be the case in Germany.

Praise for the A. A. R.—General Gross, who appeared on his own behalf, also praised the assistance rendered the War Department by the A. A. R. in expediting troops and supplies to ports of embarkation.

"If we had done what the Department of Justice wished in respect to making rates," he continued, "there is no telling where we would be now." In a statement supported by A. R. Cleveland, traffic vice-president of the A. A. R., General Gross said that the United States was saved "from 250 to 300 million dollars" through joint rate-making conferences and similar procedures. He said that new rates had to be published on more than 500,000 items. "I had more intimate, thorough, and useful affiliations during the war with the A. A. R. than with the O. D. T.," he declared. General Gross also said he called on former Attorney-General Biddle several times during the emergency to delay until after the war the antitrust suits against the railroads.

Mr. Hayes, appearing in opposition to the bill, claimed that passage of the measure will result in "railroads destroying water carriers." He declared that the railroads would be "too big" for water carriers if they are permitted to continue their joint conference methods. Senator Johnston, Democrat of South Carolina, told his fellow committee members that railroads "squeezed out" water carriers at the Charleston, S. C., port of embarkation. He cited one specific case in which freight rates changed "overnight" from $34 to $7 a car, which he attributed to joint action by the railroads concerned.

Hearings before the committee on April 18 and 19 were confined to the concluding statements of James E. Kilday, special assistant in the anti-trust division of the Department of Justice, whose opening remarks were reported in *Railway Age*, April 20, page 835. Mr. Kilday was the final witness to represent the Department of Justice.

He charged that the government was denied storage-in-transit arrangements on war material except that consigned to ports for export and that in the absence of such arrangements, the government had to pay combination rates over the transit point. "The government also was denied land-grant deductions in connection with Section 22 (of the Interstate Commerce Act) quotations and was forced to pay the Ex Parte 148 increase on traffic moving subsequent to May, 1943," he said, noting that the increase was suspended as to commercial shipments by the I. C. C. on that date.

Mr. Kilday also charged that about 15 days before the railroads filed their replies to the government's anti-trust suit against them at Lincoln, Neb., they "re-wrote their plan" of organization, omitting a provision

which he said gave "compulsory arbitration power" to their organization and substituting in its place a provision that independent action might be taken by any individual road.

Mr. Cleveland was heard on the allegedly excessive freight charged the railroads on war materials, an issue which Mr. Kilday stressed before the committee. "There always will be overcharges and undercharges," Mr. Cleveland said, "and the straight overcharges will be caught in the audit."

The A. A. R. vice-president also told Senator Wheeler that his proposed plan for one government bureau to handle all transportation is "too big" and would not work during time of war. He pointed out that the government has "efficient bureaus," in addition to the I. C. C., handling its traffic.

"I don't think so," the committee chairman replied.

R. E. A. Emergency Board

President Truman on April 24 issued an executive order creating an emergency board under Section 10 of the Railway Labor Act to investigate the wage dispute between the Railway Express Agency and its employees represented by the Brotherhood of Railway Clerks. The dispute, which resulted in the threat of a strike set for midnight April 25, involves the employees' demand for a wage increase of 30 cents per hour, no settlement of the controversy having been reached in negotiations following the recent arbitration awards to railroad employees.

Production, Repair of German Rail Equipment Rises

The completion of factory repairs on 83 locomotives in January, 1946, as compared to 55 in December, 1945, and on 683 freight cars in January, as against 331 last December, highlights a report released this week by the War Department on the condition of the railroad industry in the United States Zone of Occupation in Germany.

According to the report, 113 rail passenger cars were factory repaired and 28 tons of railroad rolling stock spare parts produced during the first month of 1946. In addition, four locomotives, all of which were on order at the time of Germany's collapse, were completed by Henschel at Kassel.

The War Department attributes the increase in production to the resumption of work in plants located in Bavaria and Wuerttemberg-Baden, which had been almost entirely inactive in previous months, and the employment of additional private plant facilities for the repair of locomotives, freight and passenger cars.

"With the continued improvement in the transportation situation, it becomes possible to place full responsibility for operating transportation in the U. S. Zone directly upon the Germans," the report adds. "Efficiency of operation and control of transportation in the U. S. Zone has been placed directly upon the shoulders of the German Laenderrat through the German Directorate of Transport at Frankfurt. The U. S. Regional Coordinating Office at Stuttgart, staffed by American personnel, acts as liaison with the German officials."

The report also summarizes the transportation situation in Japan, where, according to the War Department, railway officials hope to obtain 60,000 to 70,000 tons of duralumin from aircraft industries to produce lightweight high speed cars of a new design. Working models of the new type are already under construction.

"The rolling stock situation has not changed materially during recent months in Japan," the report continues. "The Ministry of Transportation has announced parallel programs of construction and reclamation to solve the most critical shortages of railway equipment. A more careful accounting of existing stocks has been made during the past month.

"Worn and damaged units in critical categories such as petroleum tank cars and passenger cars are being repaired, but the rate of return to service has fallen behind the total of shortages. Damaged workshops, scarcity of coal and difficulties in recruiting labor are the principal problems."

Materials and Prices

The following is a digest of orders, notices and information that have been issued by the Office of Price Administration, since April 1 and which are of interest to railways:

Brass Mill Products—Increases in ceiling prices for producers' sales of brass mill products averaging about 1.5 cents a pound are authorized by O.P.A. effective Monday.

Building Items—Four additional building items and copper magnet wire are classified in critically short supply by C.P.A. as subject to priorities assistance to maintain or increase their production. Makers of asphalt and tarred roofing products, building board, gypsum board and lath, warm-air furnaces and copper magnet wire may apply for CC preference ratings, through amendment of schedule No. 1 to priorities regulation No. 28. Producers of specialized machinery for making asphalt and tarred roofing products, building board and gypsum board and lath may also apply for CC ratings.

Douglas Fir—Acting to require part absorption by retail lumber yards of mill price increases in Douglas fir lumber and related species, O.P.A. has reduced the "handling charge" part of the retailer's markup on such lumber from $5 to $4 per M f.b.m. in amendment No. 19 to second revised regulation No. 215, effective immediately.

Fastenings — O.P.A. has issued Amdt. 2 to RMPR 147, effective April 1, to increase producers' ceiling for bolts, nuts, screws and rivets by 7 per cent, but withheld authorization to resellers to pass on any amount of the increase until the agency completes a study to determine this problem.

Fir Doors—Manufacturers' ceilings for Douglas fir doors are increased by O.P.A. an average of 28 per cent to cover increased cost resulting from higher maximum prices paid for shop lumber and softwood plywood and from wage increases. Amendment No. 1 to regulation No. 44 and amendment No. 11 to regulation No. 525 are effective at once.

Hardwood—A general price increase at the mill level averaging $3.35 per M f.b.m. or 7 per cent, on hardwood lumber produced in the southern region is authorized by O.P.A. in amendment 22 to revised Regulation 97 effective April 5.

Lumber—O.P.A. has placed all sales of imported lumber and other imported forest products as well as all lumber and other forest products produced in the United States from imported logs and flitches which are not under the coverage of any specific regulation, under the regulation dealing solely with these items. Amendment No. 23 to second revised supplementary regulation No. 14 to the general MPR became effective immediately.

Southern Pine—O.P.A. has removed from the southern pine regulation prices for mill sales of fractional widths and thicknesses of longleaf and shortleaf timbers, and the additions allowed for working longleaf boards and dimension to patterns requiring moulder work. Hereafter mills on receiving an order for the item affected will be required to apply to the price agency for individual price ceilings. Amendment No. 16 to second revised regulation No. 19 became effective April 9.

Steel Plates—A voluntary simplified practice recommendation covering thicknesses of carbon steel plates has just been submitted to producers, distributors and users by the National Bureau of Standards. Its adoption would retain many of the benefits of simplification practices imposed during the war, the bureau said.

This peacetime program was proposed by the technical committee on carbon steel plate and structural shapes of the American Iron and Steel Institute. It was worked out under the auspices of the Division of Simplified Practice, Bureau of Standards.

The recommendation provides that thickness of carbon steel plates may be specified in measurement by inches or by weight per square foot. If inches are specified, the thickness will range from 3/16 in. to 2 in., inclusive. Where weight is used the range will be from 7.65 lb. per square ft. to 81.60 lb. Plates over 2 in. and up to 6 in. thick progress in increments of 1/8 in. Those over 6 in. thick advance in quarter inches.

Steel Products—Several important provisions of the ceiling price increases in iron and steel products granted producers on March 1 have been clarified by the O.P.A.:

1. Maximum prices of secondary quality products should be computed by taking a percentage (listed in Section 1306-10 (e) of Revised Schedule 6) of the base price of the corresponding prime quality product, after adding the price increase to the base price of the latter.

2. Ceiling price increases on iron and steel products granted March 1 apply to products made of iron, other than wrought iron, as well as those made from carbon steel. (See O.P.A.-6280 for list of products.)

3. The increase of 35 cents per 100 lb. granted for galvanized sheet applies also to galvannealed and zinc coated specialty sheets.

4. The provision permitting producers of rails to price them on a net ton rather than a gross ton basis is amplified to provide that in making the conversion, base prices should be cut the appropriate amount to reflect the difference in weight while extras, now listed in gross tons, may be added for net tons without any reduction.

Prices

Brass Mill Products—O. P. A. cleared the way for distributors of all brass mill products to pass along ceiling price increases granted producers recently. The increase in producers' maximums, by averaging about 1.5 cents a lb. became effective April 1, by amendment No. 2 to MPR No. 408.

Coated Steel Sheets — Resinous coated steel sheets and cork composition products, except die-cut gaskets and shape specialties have been placed under price controls applicable to most building materials in O.P.A. amendment No. 5 to regulation No. 592, effective April 16.

Grain Doors—General manager type grain doors made of southern pine have been raised 11 per cent in price by O.P.A. in amendment No. 3 to regulation No. 483, effective April 16.

Hardwoods—A mill ceiling increase averaging $5.80 per M f.b.m. for certain grades and thicknesses of poplar, oak, gum, beech, cottonwood and other hardwood items, and dunnage lumber produced in the Appalachian hardwood region is authorized by O.P.A. in amendment No. 23 to regulation No. 146, effective immediately.

Hardwood Flooring — Oak, pecan, beech and other hardwood flooring needed for home construction may be sold on an adjustable pricing basis. Sales made now will take the amount of ceiling increases in hardwood flooring to be announced later as the result of a recent increase in southern hardwood and an increase in Appalachian hardwood prices. Order No. 3 under section No. 6 of regulation No. 458, effective immediately.

Machinery — Sellers of construction machinery and equipment, operating under interim price ceilings 5 per cent above base prices in effect Oct. 1, 1941, may increase their ceilings by another 5 per cent of the base price, and deliver at the new prices until next June 15, O.P.A. ruled in

amendment No. 33 to revised regulation No. 136, effective at once.

Small Motors — Manufacturers of fractional horsepower electric motors and of integral electric horsepower motors and generators may sell them on an adjustable pricing basis under O.P.A. orders No. 599 and No. 600 under revised regulation No. 136, both effective on April 16.

Transformers — Ceiling prices of distribution transformers at producer level have been increased about 5.4 per cent over present maximum prices, in O.P.A. order No. 597 under revised regulation No. 136, effective April 15.

Transformers—Industry-wide price increase factors for manufacturers of fluorescent and other specialty transformers, first authorized in January, 1946, will be increased by O.P.A. to bring them into line with the new wage-price policy and to rectify earlier cost calculations based on incomplete base period data, O.P.A. announced. New and old factors will be 11 and 19 per cent, respectively.

Veneer Partitions—Flush veneer-faced partitions with hollow cores of insulating board or lumber are classed as a reconversion product to be priced under the reconversion pricing formula applicable to flush veneer doors. Manufacturers apply to O.P.A. for approval of a reconversion price after submitting cost data. Amendment No. 5 to revised supplementary order No. 119 — is effective April 16.

Equipment and Supplies

Unfilled Inquiries for Freight Cars Now at 5,660

Unfilled inquiries for new freight equipment for domestic service presently outstanding total about 5,660 cars, according to *Railway Age* reports. In addition, there is an undetermined number of cars, the purchase of which are under consideration by various railroads, but for which no formal inquiries have been issued. The principal inquiries involve 2,100 cars of various types for the Southern, orders for which are expected to be placed this week, and 2,000 refrigerator cars for the Pacific Fruit Express. The complete list includes the following:

Company	No.	Tons Capacity	Type
Ann Arbor	50	50	Box
Atchison, Topeka & Santa Fe	350	40	Refrigerator
	10	50	Aluminum Box
Central of Georgia	100-300	50	Automobile
Central of Pennsylvania	125	70	Cement Hoppers
Central Supply of Virginia	200	50	Hopper
Interstate	200	50	Hopper
Pacific Fruit Express	2000	40	Refrigerator
Pere Marquette	25	30	Caboose
Pittsburgh & West Virginia	200	70	D.E. Gondola
St. Louis Refrigerator Car	100	40	Refrigerator
Southern	1000	50	Box
	600	50	Gondola
	100	70	Gondola
	250	70	Ballast
	150	70	Cement Cars

In addition to the above, the Baltimore & Ohio, Delaware & Hudson, Illinois Terminal, Missouri-Kansas-Texas and Pere Marquette also are reported considering new freight car acquisitions.

FREIGHT CARS

The Seaboard Air Line has ordered 200 70-ton phosphate cars from the Pullman-Standard Car Manufacturing Company. The inquiry for this equipment was reported in the *Railway Age* of January 19, page 214.

The Detroit & Mackinac has ordered 150 50-ton box cars from the General American Transportation Corporation.

The Great Northern has ordered 25 70-ton covered hopper cars from the American Car & Foundry Co.

The Akron, Canton & Youngstown has ordered 25 covered hopper cars from the American Car & Foundry Co.

The Bangor & Aroostook has ordered 100 50-ton rack cars from the Magor Car Corporation.

The Minneapolis & St. Louis has ordered 250 50-ton gondola cars from the General American Transportation Corporation.

The Chicago Great Western has ordered 25 70-ton covered hopper cars from the Pullman-Standard Car Manufacturing Company.

The Minneapolis, St. Paul & Sault Ste. Marie has ordered 20 covered hopper cars from the American Car & Foundry Co.

The Atchison, Topeka & Santa Fe has ordered 750 50-ton box cars from Pullman-Standard Car Manufacturing Company and 100 caboose cars from its own shops.

SIGNALING

The Wheeling & Lake Erie has ordered highway crossing signal material from the Union Switch & Signal Co., to protect six grade crossings in the Cleveland, Ohio, and Canton area. Field installation will be performed by the railroad forces.

The Cleveland, Cincinnati, Chicago & St. Louis (part of the New York Central) has ordered materials from the General Railway Signal Company for the installation of an all-relay electric interlocking at Indianapolis, Ind. The layout to be controlled consists essentially of a junction and crossing of a double-track line of the C. C. C. & St. L. with a double-track line of the Indianapolis Union. There will be 14 electric switch machines and 26 signals controlled by a floor-mounted, desk-type control machine, to be located in BX Tower, about 0.2 miles from the most distant controlled point.

The Norfolk & Western has placed an order with the Union Switch & Signal Co. for the materials involved in a centralized traffic control installation on approximately 100 miles of the single track line between Cincinnati, Ohio and Portsmouth. The entire territory will be controlled from Portsmouth where a Style C machine will be installed with a coded-carrier control to be used to handle part of the territory. In addition to the coding apparatus the order includes Style A-21 electro-pneumatic switch movements, necessary relays, rectifiers, filters, transformers, housings and automatic substation equipment. The installation work will be handled by the railway company's regular construction forces.

Supply Trade

Industrial Wage Rates

The average weekly pay of the men who built locomotives in this country last December amounted to $60.92; higher than the pay of any other manufacturing employees and the second highest in both manufacturing and non-manufacturing industries studied by the government, according to the March "Monthly Labor Review", a publication of the Department of Labor's Bureau of Labor Statistics. The highest-paid persons that month in both types of industries were the employees of brokerage houses, whose average weekly earnings were $71.39.

Bituminous coal miners, with average weekly earnings of $58.20, ranked second in the non-manufacturing category. Anthracite miners were third at $54.73. The second highest average weekly pay in the manufacturing industries was $55.38, earned by workers in petroleum refineries. Brewery workers were next at $54.55, followed by machine tool workers at $53.80.

Storage Battery Laboratory

A very complete battery laboratory was formally opened on April 16 and 17 at Depew, N. Y., by the National Battery Company.

It is designed primarily for research work aimed at the development of new types of storage batteries and improved materials and manufacturing processes. It will also be used for process control in cases requiring highly accurate measurements or analyses. The laboratory is equipped for making spectroscopic studies and X-ray analyses, for photo-micrography and for doing a wide variety of physical and chemical testing.

J. L. Rupp, vice-president in charge of engineering, is director of the laboratory. He is assisted by M. W. Dickover, assistant chief engineer. Research activities are directed by Dr. Eugene Willihnganz.

The Chicago office of the **Spring Packing Corporation** has been moved from 310 South Michigan avenue to 122 South Michigan avenue.

Waldo E. Bugbee, W. D. Jenkins, and **Frank M. Sweeney** have been appointed general agents in the railway supply field for the **Rust-Oleum Corporation,** Evanston, Ill.

Richard F. Garretson has been appointed Eastern regional manager of the **Ransome Machinery Company,** industrial division, a subsidiary of the Worthington Pump & Machinery Corp. He is in charge of sales of welding and work positioning equipment, with offices at 2905

North Broad street, Philadelphia, Pa. **George E. Gates,** prominent for fifteen years in the western construction equipment industry, has been appointed a staff member of the Worthington-Ransome construction equipment division, with headquarters at San Francisco, Calif.

V. H. Peterson, formerly assistant to the president and manager of the New York office of the Baldwin Locomotive Works, has been appointed manager of

V. H. Peterson

railroad sales, Eastern division, of **Fairbanks, Morse & Co.,** with offices at 80 Broad street, New York.

Charles S. Belsterling, former vice-president and general commerce counsel of the United States Steel Corporation, has retired from active service with the company. He will practice law with offices in New York.

Mr. Belsterling, one of the original members of the traffic committee of United States Steel's subsidiary manufacturing and mining companies, was a member of the law committee in charge of commerce litigation. In 1915, he became general commerce attorney of the company, in charge of commerce litigation. He later

C. S. Belsterling

was elected vice-president in charge of traffic, and in 1940 became general commerce counsel. He was also a director of certain affiliated companies.

Mr. Belsterling, who is a member of the bars of Pennsylvania, New York and the Supreme Court of the United States, was actively engaged in commerce litigation for nearly 40 years before the Interstate Commerce Commission and also before the federal courts and the Supreme Court. A life member of the Association of Interstate Commerce Commission Practitioners, and a member of the practitioners before the Maritime Commission, Mr. Belsterling is also an honorary member of the Traffic Club of Pittsburgh, Pa. He was recently elected an honorary member of the Traffic Club of New York, having been one of its charter members.

Thomas R. Wagner, formerly district sales manager in Chicago, has been appointed regional sales manager of the Railway division of the **Edward G. Budd Manufacturing Company,** with headquarters at the company's offices, New York Central building, 230 Park avenue, New York. **Goodrich K. Murphy,** former district sales manager at New York, has been appointed assistant to the general sales manager, Railway division.

George T. Badger has been appointed general sales manager for the **Paxton-Mitchell Company,** Omaha, Neb., and its subsidiary, the **Paxton Diesel Engineering Company.** For the past two

G. T. Badger

years, Mr. Badger has been chief sales engineer for Paxton Diesel. Before joining the Paxton companies, he was connected with the Minneapolis-Honeywell Company.

Sidney C. Palmer has been appointed manager of the marine and transportation divisions, and **Frederick S. Bacon, Jr.,** manager of the central station division, for the New England district of the **Westinghouse Electric Corporation.** Both will be located in Boston, Mass.

J. T. Myers has been appointed assistant general manager of the **Davey Compressor Company,** Kent, Ohio. A mechanical engineering graduate of Duke University, Mr. Myers as just been released from the Navy with the rank of lieutenant. He first joined Davey Compressor in 1941.

George A. Kelly, vice-president in charge of public relations and advertising of the **Pullman Company,** has been elected executive vice-president, with headquarters as before at Chicago. He succeeds **Champ Carry,** whose election to president of the **Pullman-Standard Car Manufacturing Company** was reported in the *Railway Age* of April 6.

Major H. W. Jones, Jr., has joined the **Safety Car Heating & Lighting Co.** as a sales representative in the Southeastern district, with headquarters at Philadelphia, Pa. Major Jones was born in

H. W. Jones, Jr.

1921 at Renovo, Pa., and was graduated from Lehigh University in industrial engineering in 1942. He went directly into the Army Ordnance Department after graduation.

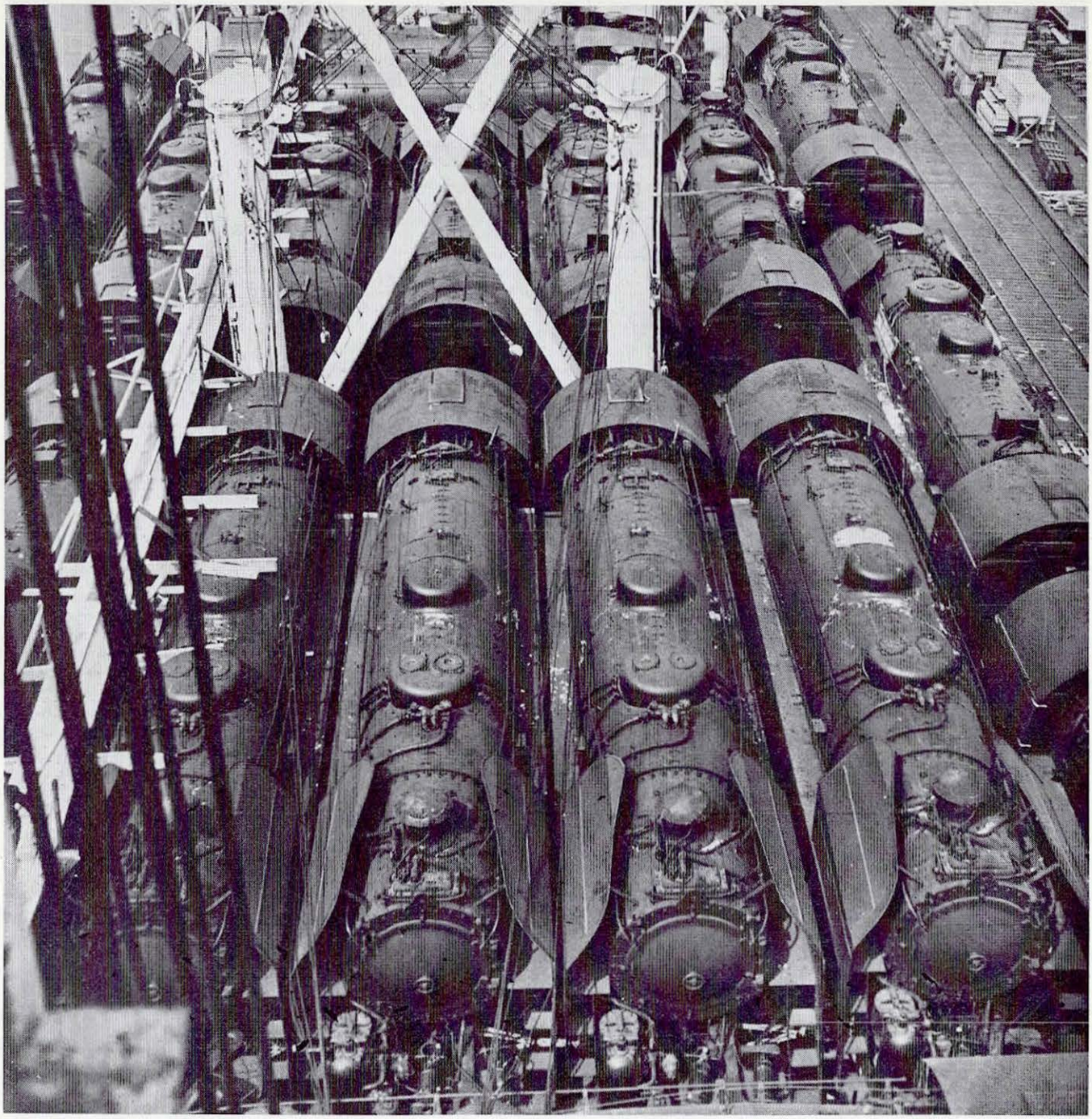
In January, 1943, he was promoted to first lieutenant and in February, 1944, sailed for England with the Fifth Armored division as a captain. In December, 1945, he transferred to the Third Armored division. Returning to the United States in January, 1946, he was separated from the Army as a major in the Ordnance Reserve on March 31.

Benjamin C. Graves, whose recent election to the presidency of the **Union Tank Car Company,** with headquarters at Chicago, was reported in the *Railway Age* of April 20, was born at New York

B. C. Graves

on January 26, 1886. His business career began on February 16, 1903, when he became an office boy for the Union Tank Line (now the Union Tank Car Company) and during the ensuing years he held various positions until, in 1922, he

News Department continued on next left-hand page



LIMA LOCOMOTIVES *for France*

ON JULY 31 of last year, Lima Locomotive Works, Inc. turned over to the French Supply Mission the first of one hundred eighty 2-8-2 steam locomotives which Lima is building for the rehabilitation of the French railway system.

Here the Belpareil, of Oslo, is ready to leave Weehawken, N. J. for France, completely loaded with a shipment of these especially designed locomotives.

LIMA LOCOMOTIVE WORKS INCORPORATED, LIMA, OHIO

was elected a member of the board of directors. On August 12, 1925, Mr. Graves was elected a vice-president, and one year later he became a member of the executive committee. On July 11, 1944, Mr. Graves was elected executive vice-president of the company, the position he held at the time of his election to the presidency.

The **National Pneumatic Company** has announced that on May 1, its Eastern sales offices will be transferred from 420 Lexington avenue, New York, to the plant offices at Rahway, N. J. The executive offices will remain at the present New York address. All correspondence concerning sales or services that was formerly mailed to New York, should be addressed to the company at Rahway.

The **National Supply Company** of Pittsburgh, Pa., and the **Sterling Engine Company** of Buffalo, N. Y., have announced that the latter company has purchased the manufacturing and servicing rights to the high-speed Diesel-engines formerly produced at National's Superior engine division, Springfield, Ohio. Production of the engines will be taken over by Sterling as soon as tools and inventory can be transferred from Springfield to Buffalo.

The **American Car & Foundry Co.** has established a Welded Products division which will concentrate on the design, development and manufacture of weldments. This division of the company's manufacturing operations has facilities and equipment for automatic and hand welding, heavy forming machinery, heat treating and stress relieving units, metallurgical and physical testings, X-ray and magnaflux inspecting equipment.

"The development section of the welded products division is prepared to design weldments for new products as well as for railroad and mine car parts, machinery parts, structural members and other items where a substantial saving or a better product is realized by substituting weldments for castings or forgings," Frederick A. Stevenson, president of American Car & Foundry, said.

The **American Car & Foundry Co.** has expanded and revamped its engineering division. A new sleeping car section is preparing designs to fill orders placed by several leading railroads, and has been placed under the supervision of **J. W. Patton,** who was formerly employed as an architect by the Edward G. Budd Manufacturing Company. Mr. Patton is assisted by **D. R. Nichols, W. T. Griffin** and **E. E. Hansen.** Mr. Hansen came to the company from Curtiss-Wright at Columbus, Ohio, where he was chief production design engineer.

In the industrial design section, **W. Boepple** is in charge of development work, under **Otto W. Kuhler. Aurion M. Proctor** is engaged in the development of interior equipment. **W. Elton Burnett, Jr.,** has been added to this section. Before coming to American Car & Foundry he was mechanical design engineer for Curtiss-Wright. **I. C. Barlow,** who has been with the firm since 1916, acts as coordinator between this section and the company's passenger car building plants, with the title of assistant design engineer. At the Berwick engineering section, **H. A. Stevens** has been appointed assistant general mechanical engineer, reporting to the general mechanical engineer, **W. F. Dietrichson.**

Construction

READING.—This company has awarded a contract to the American Bridge Company, Philadelphia, Pa., for the construction of a new steel coal trestle superstructure to be located at Ninth and Berks Streets, Philadelphia. The approximate cost is $30,000.

Bids have been asked for a new $1,000,000 bridge over the Schuykill River at Reading, Pa., to replace one built in 1857. The new structure will consist of seven spans over the Pennsylvania Railroad and the Schuykill River, and three spans over the Reading Belt branch. The piers and abutments will be constructed of concrete and will rest on solid rock foundations. The superstructure will consist of seven spans of deck plate girders, having an average length of 126 ft. each with concrete encased I-beams over the Belt branch. The new bridge will require the use of approximately 13,000 cu. yd. of concrete, 130 tons of reinforcing steel and 2,500 tons of bridge steel. It is anticipated that work will be started immediately after the project is approved by the Public Utility Commission, to be completed early in 1947.

SEABOARD AIR LINE.—This road has authorized and awarded contracts for the following eight projects, the estimated costs of which are shown in parentheses: For the construction of several new piers and abutments, ($95,000); for the construction of a pressure grouting foundation and pier shafts ($30,000); and for the fabrication and erection of several new deck plate girder bridge spans ($95,000), all at the Congaree River bridge, near Columbia, S. C.; for building an industrial spur track near Elfers, Fla., ($40,000); for an industrial spur track and track changes near Pembroke, Fla., ($20,000); for an industrial track near Lake Jem, Fla., ($31,000); for changes in its depot at Lumberton, N. C., ($25,000); and for the construction of a freight depot at Plant City, Fla., ($27,500).

WESTERN PACIFIC. — This road has awarded two contracts, amounting to $65,000 each, to Joseph Rossi, Stockton, Cal., and Harold O. Sjoberg, Oakland, Cal., for the construction of 46-room dormitories at Elko, Nev., and Winnemucca, respectively. The structures when completed will be occupied exclusively by employees of the railroad.

Financial

BELT RAILWAY OF CHICAGO.—*Annual Report.*—Net income of the Belt Railway of Chicago for 1945 was $184,311, compared with $233,994 in 1944. Operating revenues were $7,415,248, compared with $7,680,110. Operating expenses totaled $5,007,126 compared with $5,140,961. Tax accruals were $766,001, compared with $583,022. Fixed charges were $1,608,360, compared with $1,620,659. Current assets at the end of 1945 amounted to $2,186,105, compared with $2,683,886. Current liabilities were $1,113,341, compared with $1,941,663.

BESSEMER & LAKE ERIE.—*Annual Report.*—Operating revenues of this road in 1945 amounted to $17,669,430, compared with $19,561,181 in the preceding year. Operating expenses totaled $20,602,205, compared with $15,299,467. Fixed charges were $808,297, compared with $915,666. Net income transferred to surplus was $824,725, compared with $2,254,930. Current assets at the end of the year were $10,699,411, compared with $7,816,436. Current liabilities were $111,933, compared with $4,520,498.

CHESAPEAKE & OHIO.—*Stockholders Approve Merger.*—The proposal to unite the Pere Marquette with the Chesapeake & Ohio, in accordance with the terms and conditions of the agreement ratified by the board of directors of the two companies on February 19, was approved by the Chesapeake & Ohio stockholders at their annual meeting in Richmond, Va. (See *Railway Age,* March 16, page 592.) Holders of 4,538,446 shares voted for the merger and holders of 51,785 shares opposed it. To become operative, the agreement must have the approval of the Pere Marquette stockholders, who will vote on it at their annual meeting in Detroit, Mich., on May 7, and the approval and authorization of the Interstate Commerce Commission.

Interstate Commerce Commission hearings began in Washington on April 24 on the application for approval of the merger. The hearings were held before Examiners Molster and Grutzik.

CHICAGO, INDIANAPOLIS & LOUISVILLE.—*Reorganization Plan.*—The Interstate Commerce Commission, Division 4, has authorized this road's reorganization managers to consummate the approved plan for its reorganization by issuing new securities and effecting a vesting of the properties in the debtor corporation, with its charter and articles of association amended to comply with the provisions of the plan.

ELGIN, JOLIET & EASTERN.—*Annual Report.*—Operating revenues of this road last year totaled $31,364,480, compared with $34,925,732 in 1944. Operating expenses, including $3,939,685 prior years' amortization, amounted to $30,311,984, compared with $25,757,345. Fixed charges were $693,428, compared with $788,001. Net income transferred to profit and loss was $657,631, compared with $2,399,740.

ERIE.—*Merger of Leased Lines.*—Division 4 of the Interstate Commerce Commission has authorized this road to purchase the properties of the Paterson & Ramapo, including all capital stock of the Union, and also has approved the merger of the Union with the applicant, which now operates the properties of the P. & R. and Union under lease. The Erie will assume all P. & R. and Union obligations, while surrendering for cancellation the capital stock of those roads. The applicant and the Railway Labor Execu-

News Department continued on next left-hand page

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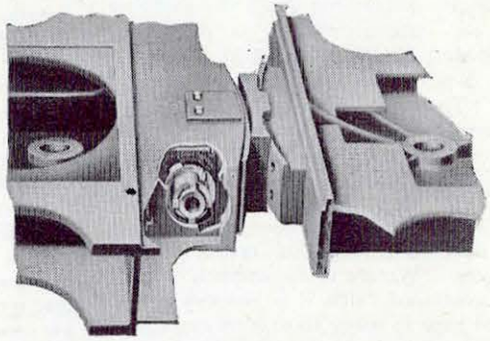

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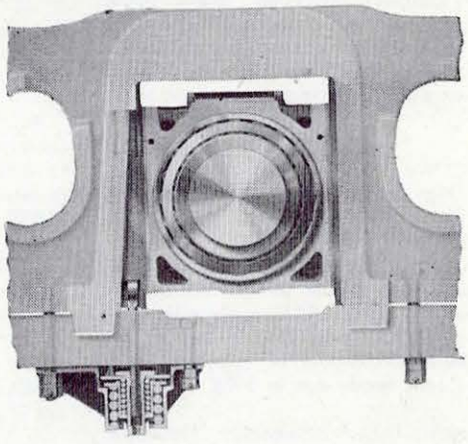

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tives' Association had agreed that employees represented by that organization would be protected under the so-called Washington Job Protection Agreement, and the commission conditioned its approval of the transactions upon fulfillment of such an agreement. It reserved jurisdiction for the subsequent imposition of conditions which might be required to provide like protection for affected employees not represented by the R.L.E.A.

FLORIDA EAST COAST.—*Annual Report.*—Operating revenues of this road for 1945 amounted to $29,571,006, compared with $31,730,202 in the preceding year. Operating expenses totaled $20,574,937, compared with $19,055,810. Tax accruals were $3,597,552, compared with $5,666,886. A net deficit of $76,325 was reported, compared with a net income of $1,633,486 in 1944. Current assets at the year end were $40,953,612, compared with $47,112,790. Current liabilities were $14,600,630, compared with $25,205,012.

LOUISIANA & ARKANSAS.—*Securities.*—Division 4 of the Interstate Commerce Commission has authorized this road to issue at par $14,000,000 of 1¾ per cent, three-year promissory notes and one first mortgage 4 per cent bond, series D, in like amount, to be pledged as collateral for the notes. The notes would be delivered to the New York Trust Company, Bankers Trust Company, and Union Trust Company of Pittsburgh, Pa., those banks having agreed to loan the $14,000,000 which the applicant will use with other funds to redeem its outstanding $14,000,000 issue of first mortgage 5 per cent bonds, series A, due in 1969. The commission pointed out that no competitive bidding was required in connection with the sale of the notes since they are to have a maturity of not more than three years. At the same time it stated that with their issue the applicant will have outstanding "substantial amount" of notes. "We are of the opinion," the report continued, "that it is unsound financing to have so many short-term maturities, as circumstances might arise whereby payments could not be met when due and serious financial difficulties might result therefrom. We are of the further opinion that the applicant's management should take action as soon as practicable to place this temporary financing on a sound long-term basis."

NORTHERN PACIFIC. — *Plans Collateral Trust Issue.*—This road plans to ask bids on a $50,000,000 issue of new collateral trust bonds, on which the interest rate is to be specified by the bidders, C. E. Denney, president, said at the annual meeting of stockholders. Proceeds from the sale of the new bonds, plus other funds, would be used to redeem $55,000,000 of collateral trust 4½ per cent bonds due in 1975.

PENNSYLVANIA.—*Refunding.*—The Interstate Commerce Commission, Division 4, has authorized the Pennsylvania Company, a wholly-owned subsidiary of this road, to issue $30,000,000 of secured serial notes to be sold at 100.023 and accrued interest to Halsey, Stuart & Company and 67 associates and accepted subject to commission approval. The notes, bearing interest rates varying from 1 per cent to 2.15 per cent, will mature in 20 equal annual installments on April 1 of each year from 1947 to 1966, and the sale price will make the average annual interest cost to the applicant 1.96 per cent. The proceeds and other funds are to be applied to the retirement of $12,000,000 of series A serial notes, the interest rates on which vary with maturity dates and $20,000,000 of series B 3⅛ per cent secured sinking-fund notes due in 1969.

PITTSBURGH & WEST VIRGINIA.—*Annual Report.*—Net income of this road for 1945, after interest and other charges, was $584,612, compared with $1,550,865 for the preceding year. Operating revenues, including hire of freight cars and other equipment, decreased $671,614, or 8.9 per cent, while operating expenses, including taxes and joint facility rents, increased $203,855, or 3.71 per cent. Federal and state income taxes increased $326,072, because of the profit from sale of the company's holdings in Wheeling & Lake Erie stocks. Other taxes decreased $16,774. The policy of debt reduction was continued during the year, among the items being the purchase of $315,000 par value of its first mortgage bonds at a cost of $274,148. Five year notes, in the amount of $6,627,000, were satisfied and an issue of $8,047,000 general mortgage gold bonds which had been used, in part, as security for the notes, was cancelled. The debt was further reduced, during the early part of the year, by the purchase of $1,913,000 par value of Pittsburgh Terminal Railroad & Coal Co. bonds for $1,266,000. The total funded debt on December 31, 1940, was $23,485,000, while on December 31, 1945, it was $10,254,000, a reduction of 56.3 per cent.

In his statement to the stockholders, Charles J. Graham, president, said: "Due to several reasons, including labor difficulties in a number of industries to which we look for traffic, our revenues in recent months have been unsatisfactory, and even with increased business, the immediate future prospects, from an earning standpoint, are cloudy. Our wage, fuel and material costs have been greatly increased in recent years, and further increases are in prospect. It is entirely possible that satisfactory earnings will not resume unless, or until, substantial relief is afforded by the granting of increases in freight rates."

SOUTHERN PACIFIC.—*Reduction in Bond Interest Rate.*—The Interstate Commerce Commission, Division 4, has issued a supplemental order in Finance Docket No. 15020 granting this road's application (noted in the *Railway Age* of April 20, page 848) for authority to reduce from 3¾ per cent to 2¾ per cent the interest rate on the $25,000,000 issue of Southern Pacific Railway first mortgage bonds, series D, previously approved in the proceeding. The bonds are held by the Southern Pacific Company.

RICHMOND, FREDERICKSBURG & POTOMAC. —*Annual Report.*—Net income of this road for 1945 totaled $2,346,426, a decrease of $2,469,005, or 51.27 per cent under the preceding year. Operating revenues amounted to $33,345,797, a decrease of $5,025,917. Operating expenses were $21,614,384, an increase of $3,435,510, or 18.90 per cent. Railway tax accruals decreased by $5,602,442, or 41 per cent, because of the lower net taxable income caused by decreased revenues and extraordinary charges in maintenance expenses. Investment in road property increased by $1,839,721. Investment in equipment increased by $1,917,594, the major items of which were 10 locomotives of 4-8-4 wheel arrangement and one 250-ton wrecking derrick.

TEXAS & PACIFIC.—*Annual Report.*—Net income of the Texas & Pacific in 1945 was $7,361,808, an increase of $3,540,017 over the preceding year. Operating revenues were $75,518,581, a decrease of $4,484,165. Freight revenue was $51,171,526, and passenger revenue was $17,908,209. Operating expenses amounted to $44,085,849, a decrease of $1,835,485. Maintenance expenses totaled $19,806,646, and consumed 26.23 per cent of revenues. Of these expenses, $10,165,813 were for maintaining roadway and structures and $9,640,833, for equipment. Tax accruals were $18,414,668, compared with $24,957,935. Taxes amounted to $47.52 per share on the company's common stock.

Total debt reduction during the year amounted to $3,186,000. Since January 1, 1943, the company has reduced outstanding funded debt by $12,183,000, or 15.8 per cent, and annual interest charges by $1,017,982, or 26.8 per cent. Expenditures for additions and betterments to roadway and structures were approximately $2,000,000, and included 13.93 miles of new 131-lb. rail and 59.89 miles of new 112-lb. rail, tie plates and rail clips, bank widening, bridge improvements, and additional shop facilities and machinery. New industries located on the line totaled 123, of which 85 were tied into existing trackage and 38 on new tracks aggregating 6.9 miles in length.

VIRGINIAN.—*Annual Report.*—Operating revenues of the Virginian in 1945 totaled $28,308,057, compared with $29,169,161 in the preceding year. Operating expenses were $23,349,028, compared with $17,234,293. Tax accruals amounted to $408,096, compared with $6,109,000. Net income transferred to earned surplus was $4,247,493, compared with $4,965,725. Current assets at the year end were $15,501,822, compared with $14,059,506. Current liabilities were $7,012,272, compared with $9,504,572.

Capital expenditures during the year, less retirements, totaled $3,644,988, of which $1,249,147 were for way and structures, and $2,395,841 for equipment. These expenditures were financed from available treasury funds.

WESTERN MARYLAND.—*Annual Report.*—Operating revenues of the Western Maryland last year totaled $34,169,276, compared with $36,727,282 in 1944. Operating expenses amounted to $24,301,229, compared with $23,782,119. Tax accruals were $3,525,777, compared with $6,255,489. Net income was $4,239,833, compared with $4,120,860. Funded debt was reduced during the year by $2,982,000, which is 4.8 per cent of the total outstanding debt. This amounts to a reduction in yearly fixed charges of $405,265, of which $386,270 was due to refinancing.

Of the expenditures for additions and

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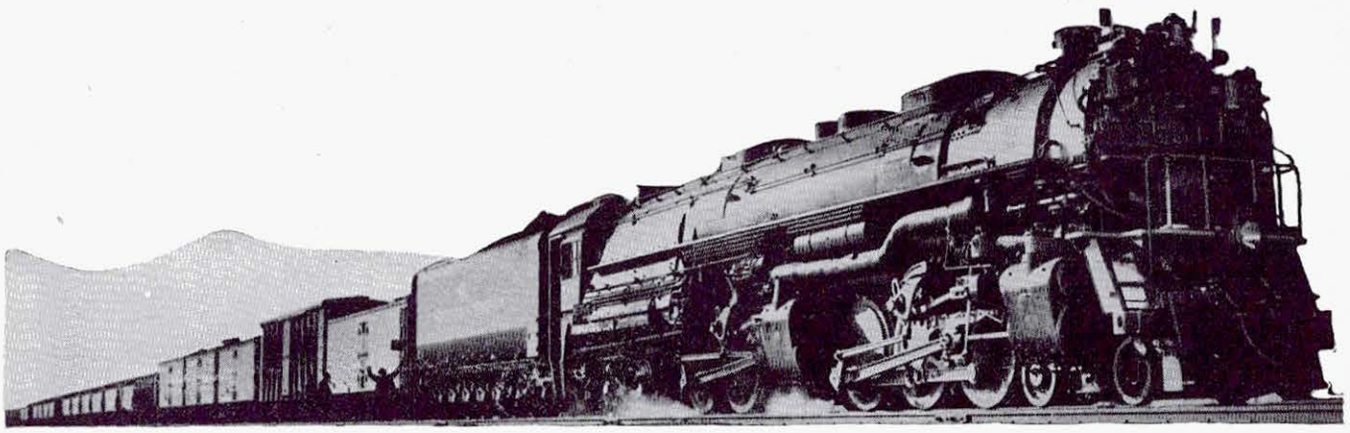

for any <u>one</u> of these important reasons

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betterments and for equipment and improvements to owned and leased lines, $1,765,515 was for the purchase of 1 Shay locomotive, 1 250-ton steam wrecking crane, 2 car floats, 364 steel gondola cars, 100 steel box cars, 1 instruction car, 52 work train cars, and 11 automobiles and trucks. Improvements to existing equipment amounted to $484,352, including $95,396 to convert "K-2" to "AB" air brakes to comply with the interchanged rules of the Association of American Railroads, $105,352 for new rail, and $76,832 for a concrete fender system. Other necessary improvements were made, such as strengthening bridges and placing additional tie plates, making a total expenditure for road and equipment of $2,611,231. During the year there were retired 408 box cars, 363 gondola cars, 5 hopper cars, 2 container cars, 8 company service cars and 5 locomotives. The total retirements of road and equipment aggregate $1,673,444, leaving a net charge to the investment account of $937,786.

Average Prices Stocks and Bonds

	Apr. 23	Last week	Last year
Average price of 20 representative railway stocks	63.69	63.68	54.17
Average price of 20 representative railway bonds	101.83	102.33	97.86

Dividends Declared

Dallas Railway & Terminal. — 7% Preferred. $1.75, quarterly, payable May 7 to holders of record April 22.

Little Miami. — Original capital, Quarterly, $1.10, payable June 10, September 10, December 10, and $1.00, payable March 10, 1947, to ho'ders of record May 24, August 23, November 22, and February 24, 1947, respectively. Special guaranteed, payable quarterly as noted above f r Original capital.

Morris & Essex Extension.—Guaranteed, $2.00 semi-annually, payable May 1, to holders of record April 16.

Passaic & Delaware Extension. — $2.00, semi-annually, payable May 1 to holders of record April 16.

United New Jersey Railroad & Canal.—$2.50, quarterly, July 10 to holders of record June 20.

Abandonments

DELAWARE & HUDSON.—Examiner J. S. Prichard has recommended in a proposed report that Division 4 of the Interstate Commerce Commission permit this corporation and the Chateaugay & Lake Placid, which it controls by ownership of stock, to abandon operation of, and to abandon, respectively, a line from Lyon Mountain, N. Y., to Plumadore Junction, 13.66 miles, and a line from Saranac Lake, N. Y., to Lake Placid, 10.1 miles. The report also recommended that the New York Central be authorized to acquire the last named line, which it would continue in operation. At the same time, it was recommended that the D. & H. be authorized to abandon operation under trackage rights over a line of the N.Y.C. from Plumadore Junction, N. Y., to Saranac Lake, 27.36 miles. The recommendations were made subject to provision for the protection of employees affected.

DELAWARE, LACKAWANNA & WESTERN.—Examiner W. J. Schutrumph has recommended in a proposed report that Division 4 of the Interstate Commerce Commission authorize this road to abandon and abandon operation of its New York harbor ferry line extending from Hoboken, N. J., to West Twenty-third street, Manhattan. Noting that the abandonment will result in abolishment of 36 jobs, the examiner would have the division grant the request of the Railway Labor Executives' Association for the imposition of employee-protection conditions similar to those imposed in the precedent-setting Burlington case, 257 I. C. C. 700.

GRAND TRUNK WESTERN.—The Interstate Commerce Commission, Division 4, has authorized this road to abandon a line from Greenville, Mich., to a point near Muskegon, 49.08 miles. Employee-protection conditions like those of the Burlington case, 257 I. C. C. 700, were imposed.

Railway Officers

EXECUTIVE

Clarence R. Tucker, whose promotion to assistant vice-president of the Atchison, Topeka & Santa Fe, with headquarters at Chicago, was reported in the *Railway Age* of April 6, was born at Hallsville, Tex., on August 3, 1897, and entered railway service on May 15, 1916, as a clerk of the Santa Fe at Longview,

Clarence R. Tucker

Tex. He subsequently served as telegraph operator, dispatcher, assistant and chief night dispatcher, being promoted to trainmaster in 1936. In 1938 Mr. Tucker was promoted to superintendent of the Southern division and one year later he was transferred to the Gulf division. On December 15, 1941, he was advanced to assistant general manager, with headquarters at Amarillo, Tex., and in 1943 he was transferred to Los Angeles, Cal. On May 1, 1945, he was appointed acting general manager of the Coast Lines, with the same headquarters, the position he held at the time of his new appointment.

W. K. Tate, assistant vice-president, traffic, of the Nashville, Chattanooga & St. Louis, at Nashville, Tenn., has been elected vice-president, traffic, with the same headquarters, succeeding **Charles Barham,** who has retired.

Harry L. White, Jr., vice-president and general manager of the Norfolk & Portsmouth Belt Line, with headquarters at Norfolk, Va., was elected president and general manager by the board of directors on April 10, to succeed the late **M. S. Hawkins,** whose biography and photograph appeared in the April 13 issue of *Railway Age.*

FINANCIAL, LEGAL AND ACCOUNTING

E. Spencer Miller, whose appointment as general counsel for the Maine Central, with headquarters at Portland, Me., was announced in the April 20 issue of *Railway Age,* was born in Springfield, Vt., and was graduated from Dartmouth College in 1931 and from Harvard Law School in 1934. After engaging in general law practice from 1934 until 1937, when he was

E. Spencer Miller

appointed attorney for the Boston & Maine, advancing to commerce counsel in 1938. Mr. Miller went with the Maine Central as general attorney in 1940, and was promoted to assistant general counsel in 1943, the post he held until his recent appointment. He has also served as clerk of the corporation and its subsidiaries since 1941.

Robert J. Fletcher, whose appointment as general counsel of the Boston & Maine, with headquarters at Boston, Mass.,

Robert J. Fletcher

was announced in the April 20 issue of *Railway Age,* was graduated from Princeton in 1932 and from Yale Law School in

News Department continued on next left-hand page

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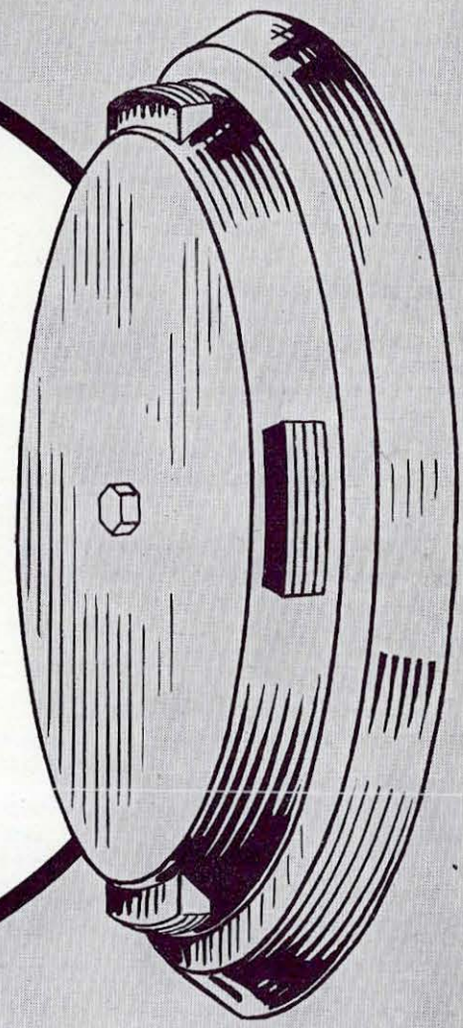

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1935. He served as attorney for the Reconstruction Finance Corporation from 1935 to 1938, then became commerce attorney for a group of southeastern railroads and coastwise steamship lines, returning to the R. F. C. as counsel for the Defense Plant Corporation in Washington, D. C. Mr. Fletcher was appointed commerce counsel of the Boston & Maine in 1943, and advanced to general attorney in February, 1945, maintaining the latter post until his recent promotion.

OPERATING

Ellis I. Smith, due to return shortly from military service as a major, has been appointed superintendent of telegraph of the Atlantic Coast Line, with headquarters at Wilmington, N. C., effective May 1. Prior to his entry into military service, Mr. Smith was traffic manager of the Western Union offices in Nashville, Tenn.

F. T. Matthews has been appointed trainmaster for the Canadian National, with headquarters at Nakina, Ont., and jurisdiction over the Hornepayne division.

W. S. Moxam has been appointed assistant division superintendent of the Canadian National, with headquarters at Saskatoon, Sask., succeeding **A. C. Nicholls,** who has been transferred to the Port Arthur division.

P. T. Moran, assistant superintendent of the Gary division of the Elgin, Joliet & Eastern at Gary, Ind., has been promoted to superintendent of that division, with the same headquarters, succeeding **W. J. Sloan,** who has retired after 35 years of service.

Karl F. Emmanuel, whose promotion to general manager of the Peoria & Eastern, with headquarters at Indianapolis, Ind., was reported in the *Railway Age* of April 20, was born at Grand Rapids, Mich.,

Karl F. Emmanuel

on January 8, 1890. He entered railway service in 1908 with the Wisconsin Car Service Association, with headquarters at Milwaukee, Wis., and one year later he went with the Illinois Central at Chicago where he was employed in yard and station service. In 1916 he became connected with the Cleveland, Cincinnati, Chicago & St. Louis, and in 1917 he was furloughed to enter World War I. Upon his return Mr. Emmanuel served as supervisor of transportation, terminal trainmaster and later as trainmaster at various points on the road. He was again granted a leave of absence to enter military service in World War II during which he, as a colonel, commanded the New York Central-sponsored 721st Railway Battalion. In January of this year he was appointed assistant to the assistant general manager of the New York Central System at Indianapolis, the position he held at the time of his new appointment.

TRAFFIC

William Wallace, whose promotion to general passenger agent of the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Seattle, Wash., was reported in the *Railway Age* of March 30, was born at Aberdeen, S. D., on August 14, 1897. He entered railway service on August 20, 1919, as a stenographer-clerk of the Milwaukee at Aberdeen, being advanced to assistant cashier, dining car de-

William Wallace

partment, at Chicago one year later. In 1922 Mr. Wallace was promoted to cashier, with the same headquarters, and from 1925 to 1937 he served as a clerk in the general passenger agent's office, city passenger agent and traveling passenger agent, with the same headquarters. On January 1, of this year, he was advanced to assistant general passenger agent at Seattle, the position he held at the time of his new appointment.

Clyde W. Fiddes, who was recently discharged as a captain in the U. S. Army, has been appointed commerce counsel of the St. Louis Southwestern, with headquarters at St. Louis, Mo., succeeding **B. F. Batts,** whose retirement was announced in the April 6 issue of *Railway Age.*

E. C. Garrabrant, manager of express traffic of the Atlantic Coast Line at Wilmington, N. C., has been appointed manager mail and express traffic there, effective May 1.

The New York Central has announced the following advances among the freight traffic department officers of the system, with headquarters at New York: **J. B. Jerome,** foreign freight agent, has been named general foreign freight agent. **Frank J. Donovan,** assistant foreign freight agent, succeeds Mr. Jerome as foreign freight agent, while **Neil R. McCormick,** export and import agent, succeeds Mr. Donovan as assistant foreign freight agent. **Lewis H. Smith** has been appointed export and import agent, succeeding Mr. McCormick, and **John P. Brady** has been named assistant export and import agent.

Howard G. Cleveland, secretary to the senior executive assistant of the Missouri Pacific at Houston, Tex., has been promoted to assistant general passenger agent, with headquarters at San Antonio, Tex., succeeding **F. L. Orr,** who died in that city recently.

P. B. Dudek has been appointed general agent of the Missouri Pacific, with headquarters at Birmingham, Ala., succeeding **V. C. Fagan,** who has been transferred to Pittsburgh, Pa., where he relieves **Norton England,** who has retired after 41 years of service.

William M. Moloney, formerly assistant general agent of the Chicago, Burlington & Quincy at Chicago, and recently discharged from the armed forces, has returned to the Burlington and has been promoted to general agent, passenger department, with the same headquarters. **C. W. Plagemann,** who has been acting general agent, has been appointed assistant general agent, with headquarters as before at Chicago.

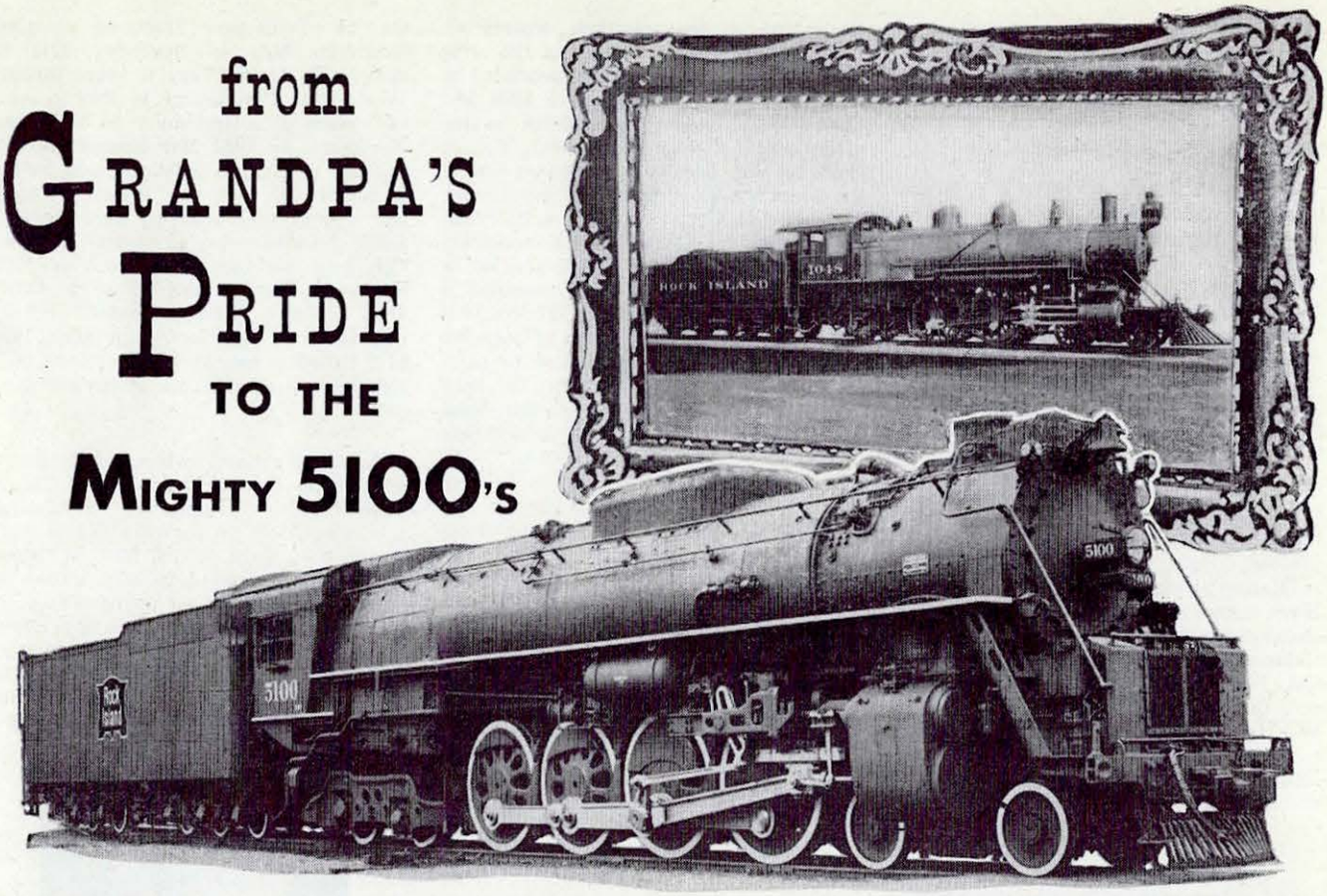
Thomas B. Gallaher, passenger traffic manager of the Atchison, Topeka & Santa Fe at Chicago, has been promoted to general passenger traffic manager, with the same headquarters, a newly-created position. A native of Graham, Tex., Mr. Gallaher received his higher education at Texas Christian University and later was graduated from law school. During school vacations he served as cashier in the local office of the Santa Fe, at Weatherford, Tex., until 1906, when he was appointed a clerk at Amarillo, Tex., subsequently

Thomas B. Gallaher

serving as traveling auditor. In 1907 he advanced to traveling freight and passenger agent and on April 1, 1917, he was promoted to division freight and passenger agent. During federal control of the railroads he was appointed assistant general freight and passenger agent. On July 15, 1920, Mr. Gallaher was promoted to gen-

News Department continued on next left-hand page

from GRANDPA'S PRIDE TO THE MIGHTY 5100's



Rock Island HAS DEPENDED UPON HSGI PARTS

MUCH as he loved old 1048, Grandpa would go for the Rock Island's modern 5100's. Some of their improved features might puzzle him, but Grandpa would recognize one old acquaintance. During his day the Rock Island used HSGI bushings and other parts, and the same dependable material also goes into the powerful, superperforming 5100's.

You are sure of a product's high quality when it continues to serve and to please for 35 years or more. That is Hunt-Spiller Gun Iron's record of satisfaction, earned not only on the Rock Island, but on 75 other Class I roads as well.

HUNT SPILLER GUN IRON HSGI *AIR FURNACE PROCESS*

HUNT-SPILLER MFG. CORPORATION

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Export Agents:
International Rwy. Supply Co., 30 Church Street, New York 7, N. Y.

Cylinder Bushings	Crosshead Shoes	Dunbar Sectional Type Packing
Cylinder Packing Rings	Hub Liners	Duplex Sectional Type Packing
Pistons or Piston Bull Rings	Shoes and Wedges	for Cylinders and Valves
Valve Bushings	Floating Rod Bushings	(Duplex Springs for Above
Valve Packing Rings	Light Weight Valves	Sectional Packing)
Valve Bull Rings	Cylinder Liners and Pistons	Cylinder Snap Rings
	for Diesel Service	Valve Rings, All Shapes

eral freight and passenger agent, with headquarters at Amarillo, and in August, 1936, he became assistant to the vice-president, traffic, at Chicago. In July, 1937, he was promoted to the position he held at the time of his new appointment.

Kelley M. Fogg, traveling freight and passenger agent of the Atchison, Topeka & Santa Fe, with headquarters at New Orleans, La., has been promoted to division freight and passenger agent at Beaumont, Tex., succeeding **O. A. Ernest,** who has retired after nearly 50 years of service. **L. R. Bures,** chief tariff clerk at Topeka, Kan., has been advanced to assistant general passenger agent, with the same headquarters, replacing **H. H. Cartlidge,** deceased.

C. E. Carlson, general agent of the Chicago, Burlington & Quincy, at Rock Island, Ill., has been promoted to assistant general freight agent, with headquarters at Kansas City, Mo., succeeding **F. A. Hart,** whose death on April 19 is reported elsewhere in these columns. **L. E. Gabrielson,** commercial agent at Los Angeles, Cal., has been advanced to general agent, with the same headquarters, relieving **Carl W. Hoefener,** who has been transferred to Seattle, Wash., where he replaces **A. R. Brown,** who in turn has been appointed division freight agent at Rock Island, succeeding Mr. Carlson.

ENGINEERING & SIGNALING

William T. Elmes, who recently returned from military service and was appointed roadmaster of the Pittsburgh & Lake Erie at Pittsburgh, Pa., has been promoted to research engineer, with the same headquarters.

J. S. Webb, signal engineer of the Atlantic Coast Line, with headquarters at Wilmington, N. C., has been named signal and telephone engineer there. **P. H. Wright,** superintendent of communications, has been appointed assistant to telephone engineer, with headquarters as before at Savannah, Ga.

J. A. MacKenzie, assistant engineer, maintenance of way, of the Canadian Pacific, with headquarters at Toronto, Ont., has been appointed district engineer, New Brunswick district, at St. John, N. B., succeeding **A. O. Wolff,** whose promotion to assistant engineer, maintenance of way, Eastern lines, at Toronto, was announced in the April 20 issue of *Railway Age*. **G. W. Miller,** also assistant engineer, maintenance of way, at Toronto, has been appointed district engineer of the Ontario district, with headquarters at Toronto, succeeding **T. B. Ballantyne,** who has been assigned to special engineering duties throughout the Toronto area.

George Harris Dryden, signal engineer of the Baltimore & Ohio, with headquarters at Baltimore, Md., has elected to retire from his position, effective May 16. Mr. Dryden was born on February 15, 1870, at Rehoboth, Md. He attended public schools and the Rehoboth Academy. On August 8, 1891, he entered railway service with the Baltimore & Ohio as a groundman in the telegraph department. He was advanced to lineman in the same department in 1892, and was promoted to telegraph operator in 1897. In 1898 Mr. Dryden was appointed signalman in the maintenance of way department, and in 1902 he was promoted to supervisor of automatic signals in the signal department. He served as signal inspector in 1903, and later in the same year he was appointed general signal inspector, which position he held until 1906, when he was promoted to assistant engineer. From 1911 to 1913 Mr. Dryden held the position of assistant signal engineer, being promoted to principal assistant signal engineer in 1913. Mr. Dryden served as first assistant signal engineer from 1925 to 1928, at which time he was promoted to signal engineer.

In addition to the positions he held on the Baltimore & Ohio, Mr. Dryden was active in the Signal Section of the Association of American Railroads, serving as a member of the Committee of Direction in 1925, 1926 and 1927 and from 1933 to 1938; second vice-chairman of the section in 1933; first vice-chairman of the section in 1934; and chairman of the section in 1935. He has been a standing committee member from 1905 to date, and at times has appeared on two or more committees. During this time he also served as chairman of Committee IV—D. C. Automatic Block Signaling, Low-Voltage, in 1917, and chairman of Committee IX—Overhead and Underground Lines, from 1927 to 1934.

MECHANICAL

Victor Gagliardi has been appointed assistant master mechanic for the New York Central, with headquarters at Harmon, N. Y.

George A. Benedict, whose appointment as superintendent of motive power and equipment of the Alaska Railroad at Anchorage, Alaska, was announced in the April 6 issue of *Railway Age*, entered railway service in 1913 as a machinist apprentice on the Cascade division of the Great Northern and during the next four years he was a machinist on the Southern

George A. Benedict

Pacific at Roseburg, Ore., the Chicago, Milwaukee, St. Paul & Pacific at Miles City, Mont., and Marmath, N. D., and the St. Louis-San Francisco at Cape Girardeau, Mo. In November, 1917, he entered the U. S. Navy to serve through World War I, returning in 1919 to serve two years as a machinist on the Great Northern. In 1922 Mr. Benedict became a signal maintainer for the Union Switch & Signal Co., and the Western Pacific, and a short time later he went with the Smith Manufacturing Company, San Jose, Cal., as a machinist. In November, 1935, he was appointed a machinist of the White Pass & Yukon, being promoted to master mechanic one year later. In May, 1936, Mr. Benedict was appointed to the position he held at the time of his new promotion.

A. G. Gebhard, whose promotion to general master mechanic of the Illinois Central, with headquarters at Chicago, was reported in the *Railway Age* of April 6, was born at St. Louis, Mo., on August 20, 1897. He entered railway service on October 5, 1914, as an apprentice of the St. Louis Terminal, going to the Illinois Central five years later as a machinist and relief foreman at East St. Louis, Mo. He subsequently served as general foreman at various points on the road until May 1,

A. G. Gebhard

1937, when he was promoted to master mechanic, with headquarters at McComb, Miss. In 1939 Mr. Gebhard was advanced to trainmastter of the Gulf & Ship Island (a part of the I. C.) and on May 1, 1940, he was transferred to McComb. On November 1, 1940, he was reappointed master mechanic, with headquarters at Chicago, the position he held at the time of his new appointment.

PURCHASES AND STORES

A. G. Runge has been appointed district storekeeper of the Chicago, Burlington & Quincy, with headquarters at Lincoln, Neb., succeeding **J. W. Schwartz,** who has retired because of ill health after 41 years of service.

Neil V. Oldenbuttel, whose appointment as general storekeeper of the Atlantic Coast Line System, with headquarters at Wilmington, N. C., was announced in the *Railway Age* of April 6, was born at Wilm-

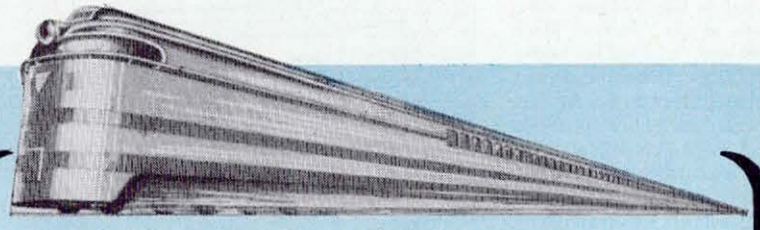
News Department continued on next left-hand page

IN THE ATOMIC AGE

COMFORT
AS NOW
SPEED
SAFETY
WILL STILL BE THE MAJOR CONSIDERATIONS

These are the impelling factors in rail travel today and, regardless of the motive power of the future, they're likely to remain so. High speed travel attains new levels in comfort and safety under the control of the modern, electro-pneumatic "HSC" precision brake. Coupled with the traditional safety of air control, are Electro-pneumatic transmission, Speed Governor Control, and "Decelostat" Anti-Wheel Sliding Protection—maximum protection for passengers and equipment.

Most of ordering railroads now specify electro-pneumatic "HSC" brake and many others are including it in their new equipment plans. Where no final conclusions as to future needs are possible it is a good idea to specify "HSC"—it is the answer to the ever-increasing urge to improve schedules.



SAFETY
SPEED
COMFORT

For maximum utilization of passenger car equipment specify the complete "HSC" control.

- **Electro-pneumatic**—improves schedules with flexibility and smoothness
- **Speed Governor Control**—for control of high braking forces
- **"AP" Decelostat**—for anti-wheel sliding protection

Westinghouse Air Brake Company

Wilmerding, Pa.

ington on October 17, 1893, and entered railroading at the age of 13 as a messenger boy for the A. C. L. A month later, in May, 1907, he became mail clerk in the purchasing department, and subsequently held various clerical positions until he was appointed division storekeeper at Waycross, Ga., on October 1, 1923. Mr. Oldenbuttel

Neil V. Oldenbuttel

was advanced to assistant general storekeeper of the Southern division of the A. C. L., at Waycross, in January, 1928, and he held this post until his recent appointment became effective on April 1.

John Lembach, assistant purchasing agent of the Florida East Coast, has been appointed purchasing agent, with headquarters as before at New York, succeeding **C. D. Boice,** whose death is reported elsewhere in these columns.

SPECIAL

Albert E. Davis, whose promotion to superintendent of safety of the Chicago, Burlington & Quincy, with headquarters at Chicago, was reported in the *Railway Age* of April 20, was born at Mt. Vernon, Mo., on February 17, 1888, and received his higher education at William Jewell College, Liberty, Mo. He entered railway service with the Burlington on November 16, 1909, as a brakeman at Lincoln, Neb., and on August 10, 1914, he was advanced to conductor. On November 1, 1929, Mr. Davis was promoted to assistant superintendent of safety, with headquarters at Lincoln, and seven years later he was further advanced to staff officer to the executive vice-president at Chicago, the position he held at the time of his new appointment.

OBITUARY

William S. Campbell, vice-president of the Kentucky & Indiana Terminal, with headquarters at Louisville, Ky., died in a hospital in that city on April 18.

F. A. Hart, assistant general freight agent of the Chicago, Burlington & Quincy, with headquarters at Kansas City, Mo., died in that city on April 19.

Joseph H. Mathieu, assistant general claim agent of the Chicago & North Western, with headquarters at Chicago, died in a hospital in that city on April 19.

Mark S. Brooks, who retired in 1934 after 22 years as assistant superintendent of the Pennsylvania's dining car department at New York, died at his home in Pocomoke City, Md., on April 21, at the age of 79.

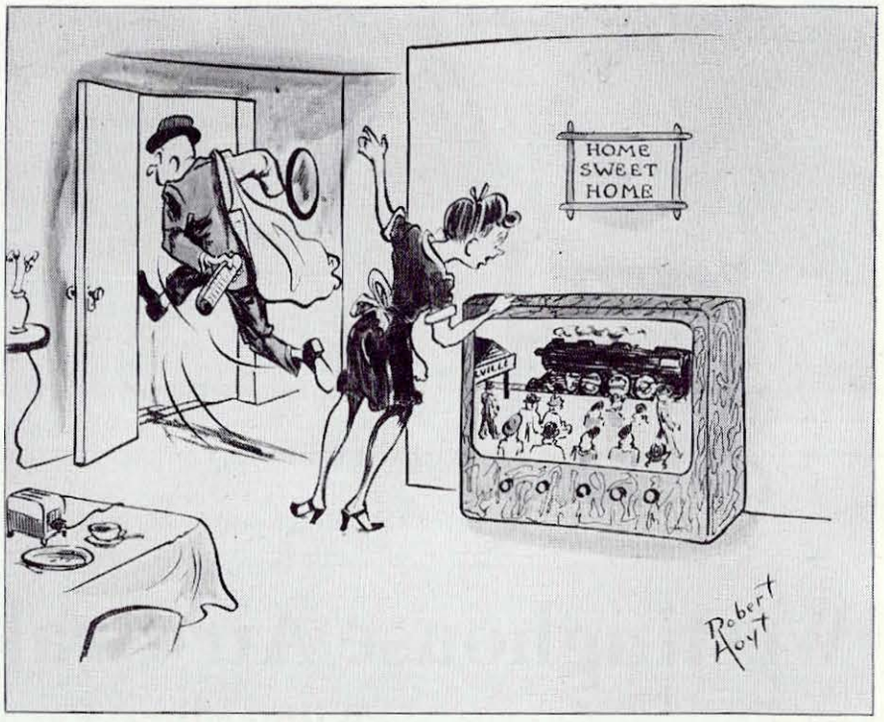
John Earle Roberts, vice-president, traffic, of the Delaware & Hudson at Albany, N. Y., whose death there on April 12 was reported in the *Railway Age* of April 20, was born at Bainbridge, N. Y., on September 23, 1879. He received his education at Williston Seminary, Easthampton, Mass., and Albany Business College. Entering railway service with the

John E. Roberts

Delaware & Hudson in 1892, he was appointed chief clerk to the general superintendent transportation in 1908. From 1912 to April, 1914, Mr. Roberts served as superintendent for the Quebec, Montreal & Southern (now Canadian National) and the Napierville Junction, at Sorel, Que., and from April to July, 1914, as general superintendent for the Greenwich & Johnsonville at Greenwich, N. Y. In July, 1914, he became superintendent of car service for the Delaware & Hudson at Albany and in September, 1920, superintendent of transportation. He was appointed assistant general traffic manager of the D. & H. in October, 1928, and in 1936 was promoted to general traffic manager. Mr. Roberts had been serving as vice-president, traffic, of the D. & H. since 1944. In 1919 he was chairman of the sub-committee of the American Railway Association to arrange the settlement between Mexico and various United States railroads covering equipment destroyed during the Mexican war. He was also chairman of the American Railway Association Conference Committee with the United States Coal Commission at Washington, D. C., during 1922 and 1923, and in 1924 he was chairman of the A. R. A. committee appointed to meet with the committee of the National Association of Owners of Railroad Securities for consideration of the latter's car pooling plan and certain proposals relating to unified purchases and repairs to freight cars.

Charles D. Boice, purchasing agent of the Florida East Coast, with headquarters at New York, died on April 9 at the age of 69. He had been with the Florida East Coast since 1894, and at the time of his death was serving also as director and secretary of the company.

* * *



"Hurry, Pop! It's Pulling into the Station Now."

Traffic Declines in Victoria

The report of the State-owned Victorian Railways (Australia) for the year ended June 30, 1945, shows a gross revenue of £15,258,317, a decrease of £623,570 under fiscal 1944. This decrease was due primarily to a reduction in war freight traffic. Net revenue before interest and loan conversion cost was £2,426,012; and, after these charges were deducted, the surplus was £201,316. Total train-mileage for fiscal 1945 was 16,337,140 of which 5,366,566 was freight. No ton-mileage or passenger mileage figures are given, but a total of 8,063,591 tons of freight were moved; and 195,697,963 passengers were carried.

The report expresses considerable concern over competition from highway and air services, with the removal of war-time controls. It suggests that such services should be complementary to the railways rather than competitive with them.

"Victory Garden Special"

As a means of interesting more people of America in growing produce as a profitable pastime, the Chicago & North Western has prepared a special train, to be known as the "Victory Garden Special" which will leave Chicago on April 28 and make a tour of 17 cities and towns in six midwestern states. Equipped with a large number of exhibits on the why and how of gardening, including modern cultural methods, insect sprays, etc., the train will make stops at Sterling, Ill.; Clinton, Iowa; Cedar Rapids and Des Moines; Omaha, Neb.; Sioux City, Iowa; Worthington, Minn.; Sioux Falls, S. D.; Minneapolis, Minn., St. Paul, and Eau Claire, Wis., Wausau, Green Bay, Sheboygan, Milwaukee and Madison.

Europe's Railway Associations Back on the Job

Two international railway organizations —the International Railway Congress Association and the International Railways Union—have been reactivated in Europe, according to the Railway Gazette (London). The permanent committee of the International Railways Congress, established in 1885, met in Brussels during February. This group concerns itself with the advancement of knowledge in every phase of railway management, including operation, engineering, finance, and law. Until the outbreak of the war it issued a monthly bulletin on these subjects in English, French, and German (much of the content of the bulletin being abstracts of articles from the technical railway publications in the various countries). Meetings of the entire Congress (the first post-war meeting to be held in Switzerland next year) result in recommendations to the participating governments and railways —but no mandatory conclusions are reached.

The International Railways Union, which held its first post-war business meeting in Paris early this year, was formed on the initiative of the International Economic Conference of Geneva in 1922. Its purpose is to facilitate international rail traffic by promotion of uniform standards of construction, operation and equipment. While

Whatever your lighting requirements, Graybar can impartially recommend the exact lighting equipment for your particular needs from the most complete selection of lamps and lighting units available from any one source.

Graybar Lighting Specialists know railroad lighting from power supply to lamps — from cars to yards — and have the specialized technical knowledge to give you expert help in modernizing the lighting of your railroad. Our nation-wide warehousing system speeds delivery of available lighting units, wiring supplies, transformers, controls, and G-E lamps.

If you haven't seen the recently issued bulletin on railroad lighting, ask your Graybar Representative to show you a copy.

The Graybar Railroad Department also provides the nation's railroads with pole-line supplies, communication apparatus, and electrical repair-shop supplies. May we show you the advantages of Graybar service? *Graybar Electric Company. Executive offices: Graybar Building, New York 17, N. Y.* 4637

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- ★ CAR ROOFING
- ★ CAR LINING
- ★ CAR FRAMING
- ★ CROSSING PLANK
- ★ HEAVY TIMBERS
- ★ ALL GENERAL MAINTENANCE LUMBER

Southern Pine Lumber Company

Southern Pine . . . Southern Hardwoods

MILLS: Diboll and Pineland, Texas

the Union's recommendations are not binding on the members, any group of members may agree to adopt them if they wish. Members are also permitted to form regional groups within the organization, for the purpose of effecting common regional agreements. Full membership is open to railroads with 1000 kilometers of standard or broad-gage line in Europe or adjoining countries. Other interested parties are admitted as associate members. The Union publishes a monthly journal in French and German, and an annual statistical report in French.

Electrification of South Ural

The electrification of the South Ural Railroad between Chelyabinsk and Zlatoust has been completed, according to Soviet press reports, and through traffic is now moving on 161 kilometers of double track. Electrification of this railroad involved the blasting of rocks for the installation of supports for the 3,000-volt contact cable along the entire length of the sector. To provide power for the system, seven substations were built and more than 100 kilometers of high-voltage transmission lines were installed. On another sector between Zlatoust and Kropachevo, in the direction of Ufa, reconversion to electric operation has begun.

English Line Plans Large Track Improvement Program

A big program of track renewals, costing about two million pounds (more than $8,000,000), and including the relay of 400 miles of track, is to be undertaken this year by the Great Western of Great Britain preliminary to the return to pre-war train speeds. The improvement work will include the relay of several miles of track with flat-bottom rail (similar to U.S. standard type of rail) at selected locations. This rail, which is 50 per cent stronger than the existing rail, is being laid in stretches of line subject to very heavy traffic, with a view to ensuring a continuance of smooth running at these points, with a minimum of maintenance attention.

A. C. L. to Utilize "Color Dynamics" in New Shop

"Color dynamics," a relatively new science, is being incorporated into the construction plans for new railroad shop facilities now being erected at Montgomery, Ala., officers of the Atlantic Coast Line have announced.

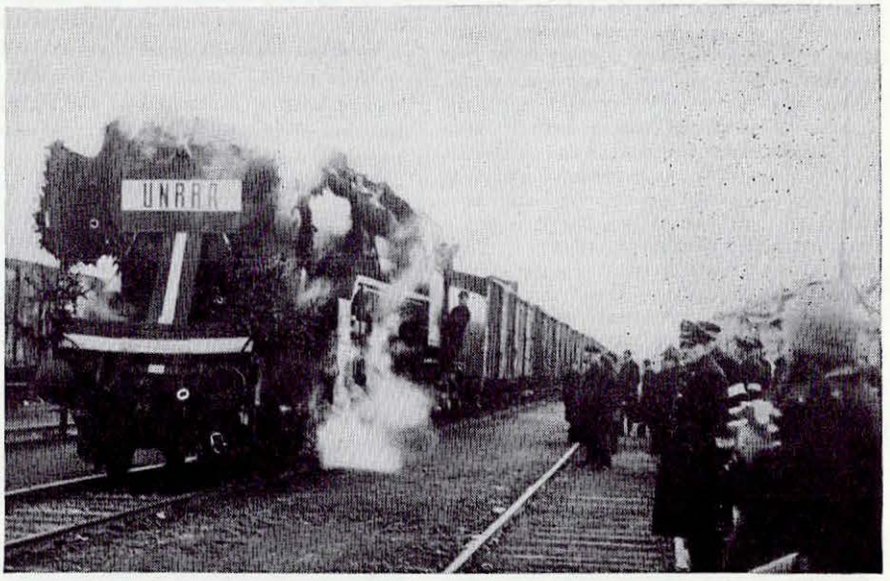
The experiment, first of its kind on the system, is designed to improve safety conditions, raise employee morale and reduce tension and fatigue of workers. If results prove satisfactory, consideration will be given to a similar program in other facilities along the line.

In practice, several restful colors are used in surroundings to relieve eye strain, monotony and resulting laxity which provokes accidents. Bright colors are applied at vital operating points such as switches, moving parts of machines, fire-fighting equipment, in order that these spots will always be strikingly visible to workers.

Marks Fiftieth Anniversary of Rail Service to Miami

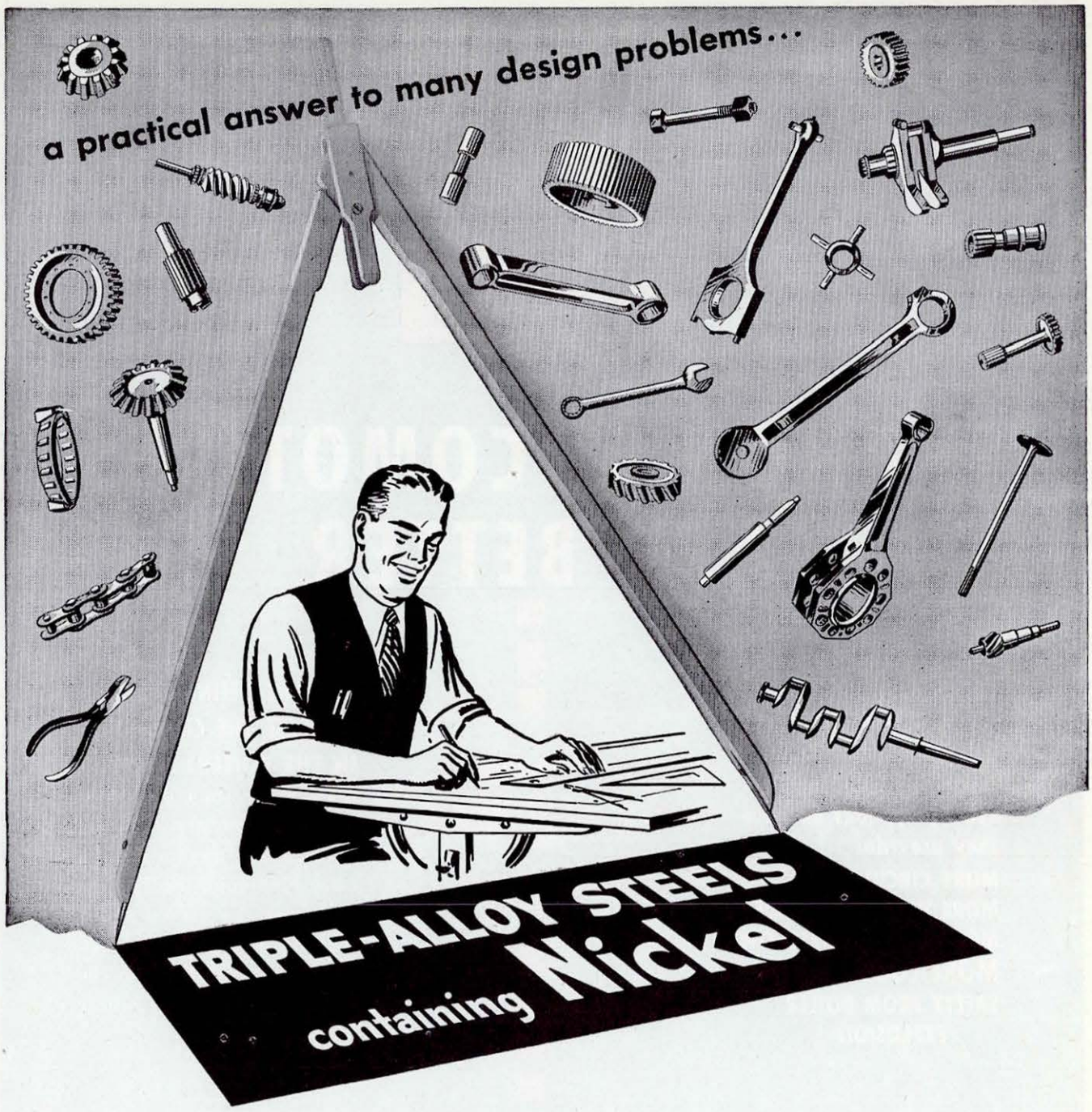
The first Florida East Coast train bearing passengers reached what then was the obscure village of Miami, Fla., on April 22, 1896, that road points out in publicizing the fiftieth anniversary of that event. The line extension from West Palm Beach was started in the late summer of 1895, and was completed only a week before the arrival of the first passengers. The early development of the city was accelerated by the construction of a large hotel and various utilities by Henry M. Flagler, builder of the railroad.

* * *



U. N. R. R. A. wheat train arrives in Vienna

On March 8, 1946, an U. N. R. R. A. train carrying wheat supplies for the people of Austria arrived at Ostbahn station in Vienna. The train was met by various officers of the relief organization as well as members of the Austrian government.



Triple-alloy steels containing Nickel offer designers the following *triple* advantages:

1. OUTSTANDING PERFORMANCE—Strength and toughness, resistance to wear, fatigue or shock to meet a wide range of requirements, as dictated by design.
2. RELIABILITY—based on consistently uniform response to heat treatment.
3. ECONOMY—resulting from standard compositions precisely graded to match the engineers' needs.

Service records established by triple-alloy steels over a period of years show that they are giving excellent results in many diverse and exacting applications.

The large number of standard compositions available, including the 4300, 8600, 8700, 9300 and 9800 series, permit accurate and economic selection for specific uses.

Because of their many advantages, these triple-alloy steels warrant your careful consideration when planning new or improved designs. We shall be glad to furnish counsel and data upon request.

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FOR THE ROCK ISLAND

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MORE NEW LOCOMOTIVES
(4-8-4 type)

are equipped with three Syphons in the firebox and one Syphon in combustion chamber, adding 155 square feet (37%) to the firebox heating surface of 427 square feet.

SYPHON LOCOMOTIVES ARE BETTER

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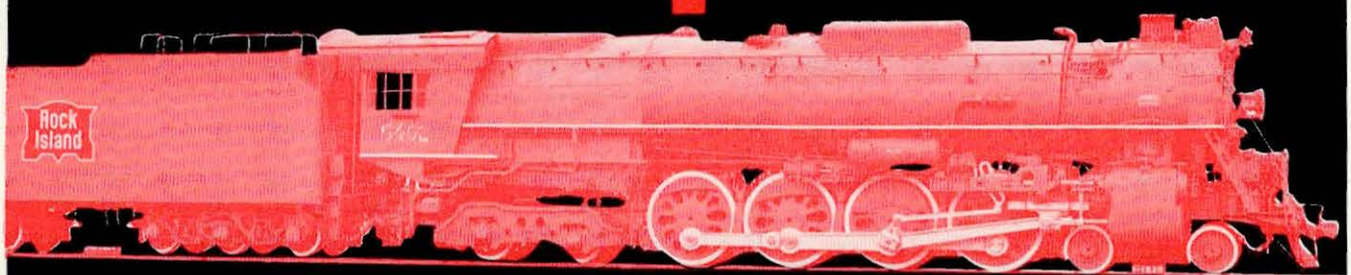
ON 11,965 LOCOMOTIVES
ON 194 RAILROADS

Designing Engineers specify Syphons because they provide:

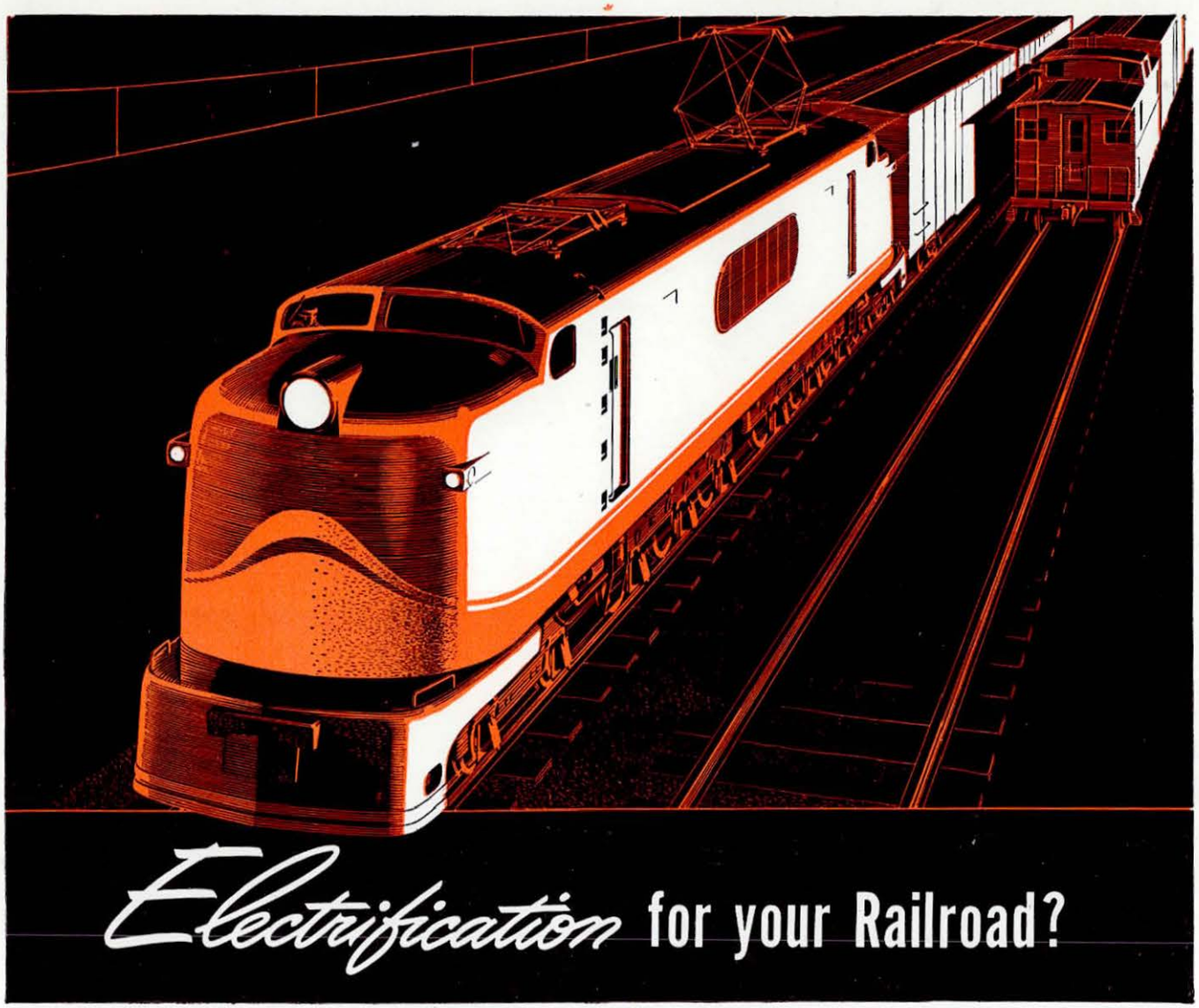
MORE CIRCULATION
MORE HEATING SURFACE
MORE BOILER HORSEPOWER
MORE LOCOMOTIVE!
SAFETY FROM BOILER EXPLOSION

SYPHONS DEFINITELY INCREASE THE CIRCULATION IN THE BOILER! . . . They draw water from the throat sheet, the lowest part of the boiler, and by thermic impulse carry it through the Syphons and over the crown sheet, creating a circulation which extends clear through to the forward section the whole length of boiler.



Locomotive Firebox Company

PHILADELPHIA CHICAGO MONTREAL



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Yes . . . if your operation demands increased passenger and freight revenue volume

Because electrified motive power . . .

. . . has high availability based on the flexibility of multiple traction units always able to complete runs regardless of unit breakdowns; and based on the reduced time necessary for maintenance due to fewer wearing parts.

. . . provides increased revenue loads by releasing cars formerly used for transporting fuels, and permitting additional revenue cars to be hauled.

These operating advantages give increased passenger and freight service at less operating cost.

Westinghouse engineers are available to discuss electrified operation of your railroad. Call your Westinghouse office, or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh, Pennsylvania. J-95130

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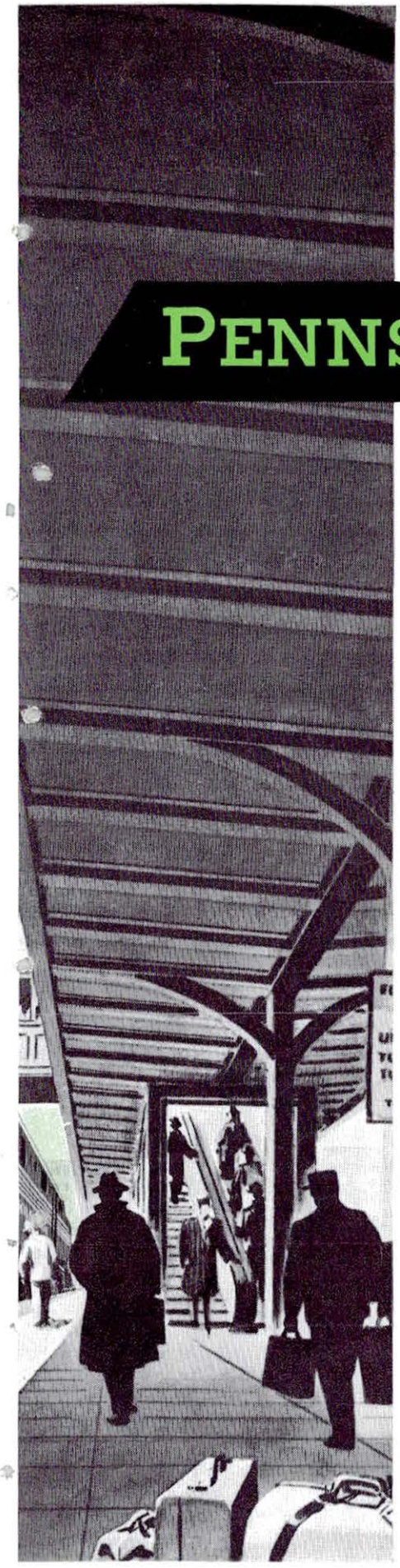

PENNSYLVANIA RAILROAD

orders

6000 hp. Diesel-Electric

A Baldwin-Westinghouse 6000 HP. Diesel-Electric Locomotive —consisting of two 3000 HP. units coupled together with an operator's cab at each end—has been ordered by The Pennsylvania Railroad.

Each of the units will be equipped with two Baldwin 1500 HP. supercharged diesel engines, representing the latest development in the diesel-electric field.

The new locomotives will be used for high-speed trains—both freight and passenger—on non-electrified portions of Pennsylvania Railroad lines.

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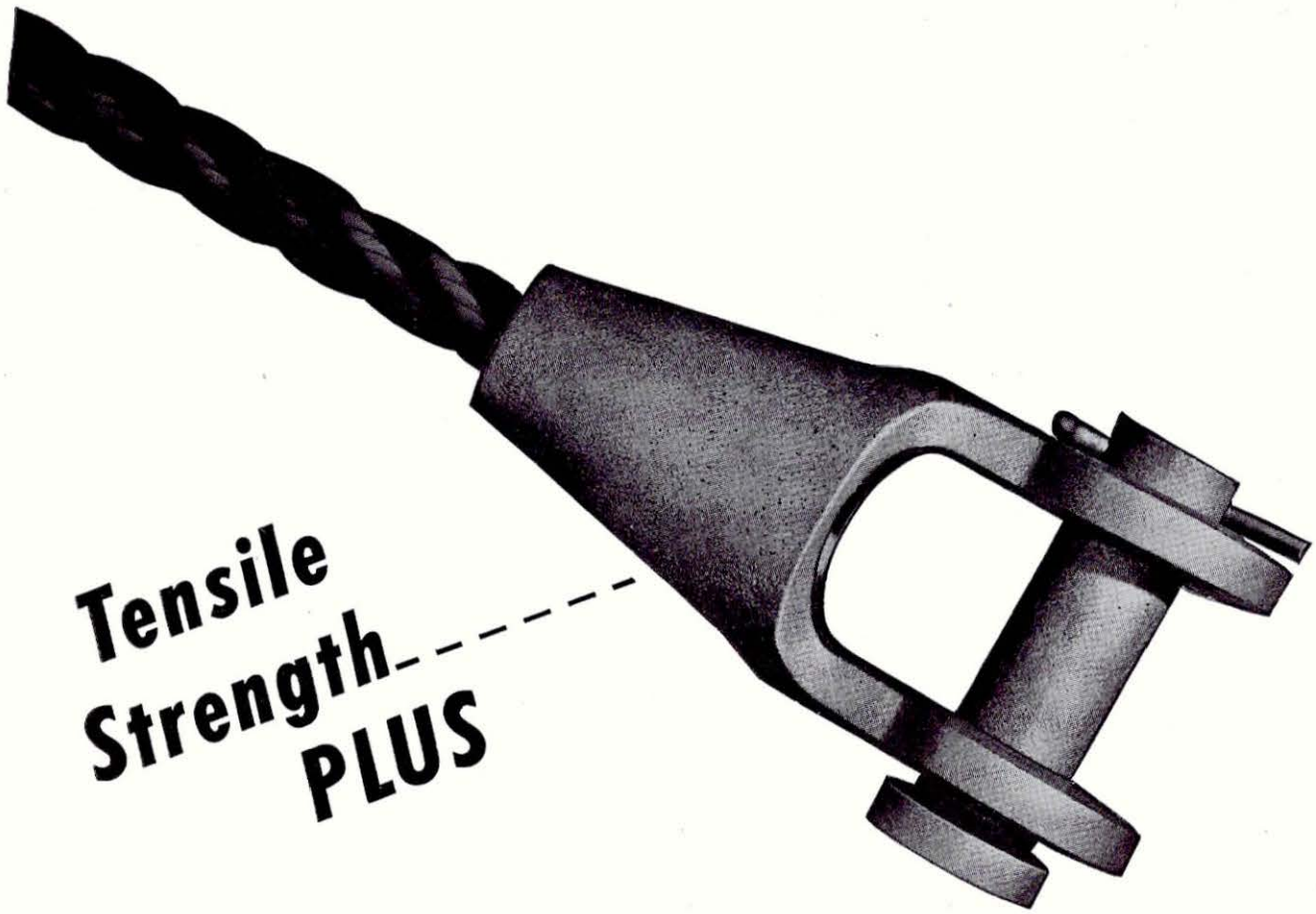

Tensile Strength PLUS

A leading foundry has been casting these wire rope sockets for 35 years. And during that time, not a single instance of failure in service has been reported.

As this product found wide war uses, special tests were made to determine its strength. In every case, the tests indicated a big margin of safety over the minimum tensile strength requirement, with strength uniform in *all directions*—not merely strength in one direction at the expense of others.

Production cost is far below that of any other method of fabrication.

The chart, shown at the left, gives tensile strength in a series of heats—a property that can be specified in advance.

With steel castings you can write your ticket for *any* property, or *any combination* of properties—and then get exactly what your end purpose requires.

Could there possibly be a more versatile, or a more economical, material from which to make the better products the market now demands?

Your steel foundry will gladly work with you toward the virtues and the economies steel castings have for you. Or you may consult Steel Founders' Society, 920 Midland Bldg., Cleveland, Ohio.

TESTS PROVE IT

Test Number	Tensile* Strength	Yield* Point	Reduction in Area
1	249300	217730	18.8%
2	229880	212700	24.5%
3	198300	179230	23.4%
4	186300	174830	29.7%
5	219070	181820	21.7%
6	234650	215520	20.6%
7	220080	204700	26.8%
8	185030	165540	21.3%

*Pounds per square inch.

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Just published *free* to railroad men

TODAY, banks don't have to copy practically every detail of every check by hand before sending it on for clearing.

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Today, railroads don't have to copy waybills by hand at junction points. Nor need railroads be satisfied with anything less than complete, photographically accurate records for making out interchange reports, car count records, passing reports, and freight-traffic reports.

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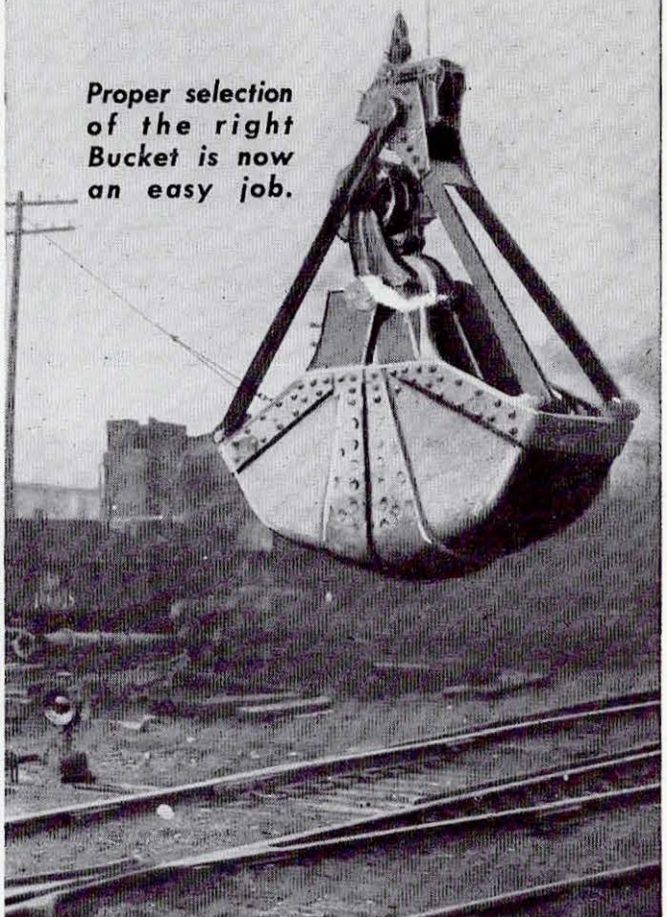

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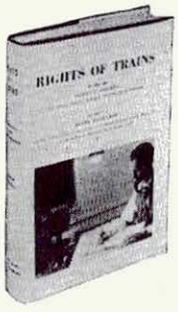

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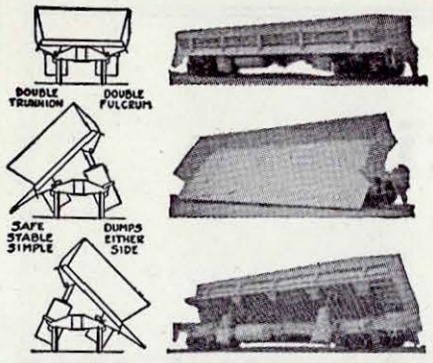

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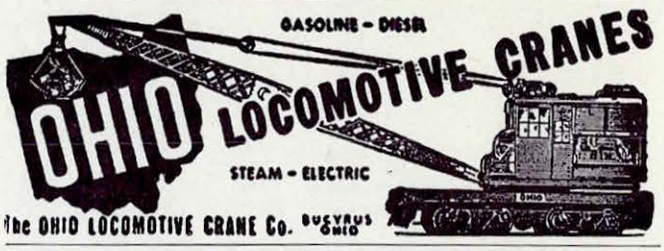

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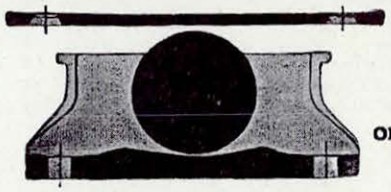

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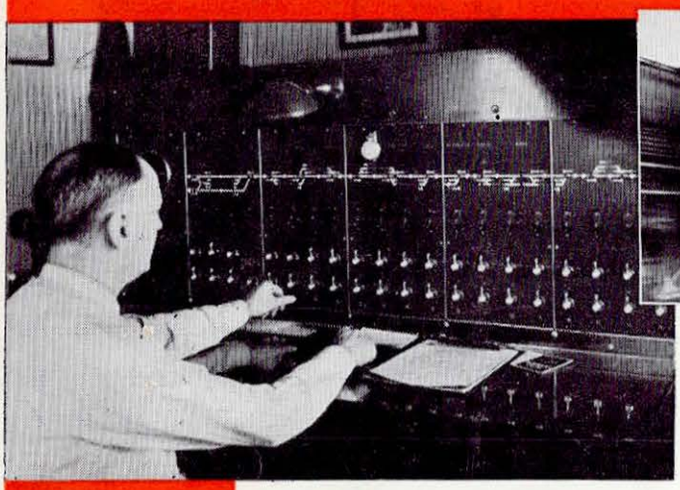

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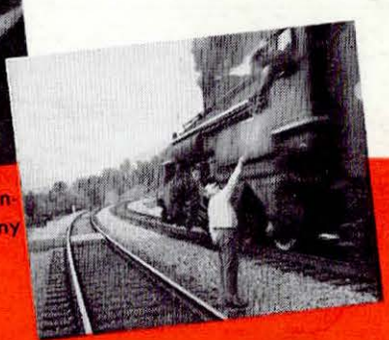

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